OSBORN'S NURSING

AMBULANCE LECTURES

NURSING AMBULANCE LECTURES.

AMBULANCE LECTURES

ON

HOME NURSING

AND

HYGIENE.

BY

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FOR WOMEN, SOHO SQUARE.

WITH ILLUSTRATIONS.

LONDON
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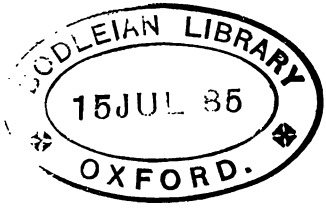
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PREFACE.

HAVING been desired by some of the Members of my Ambulance Classes to publish my Lectures, I have complied with their request, and I hope they may prove of service to them as well as to others.

The chapter on the Roller Bandage I think will be of very great use to them, by reason of the very excellent diagrams, for which I have to thank MR. GILBERT THOMAS, of "The Graphic."

SAM. OSBORN.

10, MADDOX STREET,
REGENT STREET, W.
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THE SICK-ROOM.

INTRODUCTORY REMARKS.—*Selection, preparation, and cleaning of room; Bed and bedding; Furnishing; Warming and ventilation.*

ALL of you hold the certificate of "First Aid to the Injured." You have, therefore, a certain amount of surgical knowledge, which I shall take for granted is thorough, as far as that course of lectures is concerned. Some details may have been forgotten or escaped you, so I would ask you to refresh your memories by reading up again that little handbook that was given you at the commencement of that course, and which you will be supposed to be thoroughly cognisant of when presenting yourself for the advanced or nursing certificate.

To be a competent nurse, a slight knowledge of anatomy, physiology, and surgery is necessary, and such you already possess.

It is for this reason that no persons are allowed to enter for this course of lectures on Nursing and Hygiene until that knowledge is obtained.

Nursing is an occupation for which women are more especially fitted. Delicacy of touch, combined with gentleness, you already possess, and these are the qualities that are most essential to good nursing.

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NURSING AMBULANCE LECTURES.

"Cleanliness," says the old adage, "is next to godliness," and nowhere is this of greater truth than in the sick-room, where everything must be kept scrupulously clean.

The room should be systematically cleaned all over, floor, windows, &c.

Windows should be cleaned at least once a fortnight, and the floors once a week. When the floors are swept, see that they are thoroughly and properly done. All corners thoroughly wiped out, and no accumulation of fluff allowed to collect under the bed. Where the walls are of parian cement let them be washed also.

Dr. Richardson, whose name is associated with all matters relating to health, recommends dry scrubbing as the best means of cleaning a bedroom floor. The floors, however, of bedrooms differ in many houses; and where they are stained and polished all over, that being the best mode of treating them, they can be easily dusted daily. If made of unpolished common deal, scrubbing alone can remove the impurities. It is for this form of flooring that Dr. Richardson recommends dry scrubbing with sawdust, using the sawdust in place of soap and water; and throwing away or, better still, burning the same after use. This will produce a beautifully clean and dry floor, and not leave, as is the case if water is used, a damp room, heavily charged with moisture.

I, nevertheless, advocate that rooms should be scrubbed with water once a week; and, instead of using soap, use Smith's Disinfecting Cleansing Powder, which can be procured at any stores for 7½d. the dozen packets. A warm damp cloth, with a certain amount of this powder, will not leave excessive moisture, or allow particles of dust to fly about, as when dry scrubbing is adopted.

A sick-bed should not be too high or too broad,—3ft. 6ins. in width, 2ft. 6ins. in height, and 6ft. in length. It is thus better adapted for lifting the patient

or changing the bed-linen ; and in children's cribs the sides should be made to let down, for these same purposes.

The bed should also stand out into the room, so that the patient may be attended to from either one side or the other ; and let the bed, if possible, be between the door and fireplace. The foot of the bed should not be towards the window if it can be helped, as the light shines directly on the patient's face, and if sufficiently well to be able to read, this is very trying.

Iron, and not wooden bedsteads should be used, the former being the more cleanly, and affording less harbour for vermin. The bottom of the bedstead may be composed of iron laths, or, what are better still, are the sanitary woven wire mattresses, manufactured by Messrs. Rowcliffe and Co , of Glossop, and which combine both bedstead and mattress. These, are everything that can be desired, and are largely used in St. Thomas's and other of our large hospitals. In cases of fracture, it is best to place five or six deal boards, about a foot wide, under the mattress, and across the bed, reaching from the head to the foot, so that no irregularities, but a plain level surface is present, and the patient does not lie in a hollow. Each of these boards is perforated with some five or six holes, to allow of ventilation to the under surface of the mattress. This is what we speak of as a fracture bed.

Bags filled with silversand, and placed on either side of the fractured limb, help to steady it, and one placed over the upper part of the leg, above the seat of fracture, prevents any startings or jumpings of the limb, which are necessarily painful. These bags are only partially filled with sand, so that they lie firmly and evenly.

Special forms of beds are required for certain cases. Where the patient is not allowed to move from the bed for months invalid beds with a central opening for the bedpan must be obtained. Again, in cases of paralysis of the lower limbs a water-bed must be used,

because these cases, from the nature of their complaint, are more especially liable to bedsores. A hair mattress is the best form of covering to the bedstead; and on no account should featherbeds be permitted. They do not allow of a free circulation of air around the patient, and permit of the body lying as it were in a hole.

A blanket is not necessary underneath the lower sheet, and when the patient is likely to be confined to bed for some time is far better done away with.

Twill is the best form of calico sheeting to use for bedding, as it does not strike cold to the body as linen does, when getting into bed.

In the sick-bed a bolster case should always be used, and the under sheet not turned over it, so that the patient is disturbed as little as possible when the bed-linen is changed. Pillows may be used or not, according to the requirements of the case.

Bedding in flannel is not necessary except in rheumatic fever cases, and here it is absolutely necessary. The danger of heart affection which occurs in almost all of these cases is thereby considerably lessened. Let the clothes of the bed be well aired, and hot-water bottles placed in the bed previous to the patient being put there.

As to the amount of bed-clothing required it is impossible to speak, as different persons require different amounts. The aged, and those in ill-health, because of their impaired circulation, require greater warmth, and more covering than those in good bodily vigour. If the feet are cold, it is impossible to procure sleep; and to produce refreshing sleep, the body should not be overheated. Persons who suffer from cold feet, sufficient to prevent their going to sleep, find, by bathing their feet in cold water before getting into bed, that a subsequent reaction sets in, and the feet become warm. This is a practice attended with some danger if adopted by ladies, and therefore one not to be *recommended.* Sleeping-socks or hot-water bottles

should be used, and the former for preference, the latter tending to make the feet tender.

The less furniture there is in a sick-room the better. No rough or woollen textures should be allowed either about the bed or windows. Let the furniture be of the plainest and most useful description, and the chairs with wooden or straw-plaited seats.

Happily our tastes have of late greatly improved in the matter of furnishing; and I would strongly recommend those who did not hear them, or have not already done so, to read the Cantor Lectures delivered before the Society of Arts by Robert Edis, on the Decoration and Furnishing of Town Houses; the perusal of which will be not only instructive, but entertaining.

The old-fashioned four-poster of our forefathers has happily vanished. The half-tester is perhaps the favourite form of bedstead at the present day, and to this there is no objection, if the top of the canopy is not filled in: for if anyone here has such a bed, I would ask them, on going home, to mount on some steps and have a look at the top of it, and they will find what a splendid receptable for dust it is, which has been accumulating there for weeks. The half-tester may be used for carrying a semi-circular top valance, and head and side curtains, to keep off draughts from the head of the patient. If you must have a canopy to the bed, the best is that which you saw at the International Health Exhibition of last year in the bedroom fitted up by Messrs. Jackson and Graham, where the canopy was fastened to the ceiling, and no intervening space existed between it and the ceiling, and consequently no dust or dirt could accumulate at the top of it. No valance, however, should be allowed to hang from the bed to the floor, so as to prevent a free current of air passing underneath the bed. This "under the bed" should never be permitted to become a hiding-place for old things, or the wardrobe for the left-off clothes of the patient.

I previously stated that the best flooring for a bedroom is one stained and polished, for this can be systematically and thoroughly cleaned with beeswax and turpentine. A small square of carpet may be placed in the centre of the room, but as this must necessarily go partly under the bed, a plan not to be recommended, rugs or strips of carpet should lie on either side of the bed. These can be easily removed for shaking, or, in cases of contagious fever, removed away altogether. Carpeting, such as I have described, is necessary in a bedroom, because on getting out of bed, the bare floor strikes cold to the feet of the patient, and in tending the sick, it helps to deaden the sound of the attendant's movements. Whilst speaking of the furnishing of the sick-room I must touch upon wall-papers. Some of these are not only abominations, but actual poison-traps. The green arsenical wall-paper has vanished; but in its place there are others equally beautiful in colouring, which also contain arsenic, and are consequently equally deleterious to health. The flock paper is another form of abomination: its roughened surface so easily allows of any small particles of dust or dirt to adhere to it. If you must have wall-papers in your bedrooms, choose them, bearing in mind that perhaps some day or other you may have to lie in bed, and look at them constantly for weeks. Therefore, do not choose one with any figuring, which to your fevered brain will suggest devices, or means to calculation. Plain-colouring or simple colour wash is, in my opinion, the best covering for bedroom walls.

Wall-papers in bedrooms are in another way a source of dirt. They are not so often replenished as other rooms: "as it is only a bedroom it may as well go another year;" and frequently the old paper is not thoroughly removed before the new one is put on. I have known seven different varieties of paper to have been found on stripping a wall, the intervening spaces having formed splendid warrens for vermin. I do not wish

to exclude everything of beauty from the sick-room. By all means let pictures, statuettes, or anything pleasing to the eye that can be procured, but yet which can be thoroughly cleaned, be placed about the room. Flowers are always cheering to a patient, and at the present time the Kyrle Society have organized a scheme for constantly supplying our large hospitals with flowers. One word of caution, however, about flowers, and that is,—let them, if cut, be replenished daily, as nothing is more deleterious to health than decaying vegetable matter or foul water. Don't go round and fill up your specimen glasses with a little fresh water, but let the whole be replenished, and to which may be added a little Condy's fluid. Some flowers, more especially mignonette and those with soft stems, are especially liable to decompose quickly. Flowers with very powerful scent are better avoided. Flowers in pots also should be removed at night time. There can be no doubt that some plants give off noxious emanations, and others may scatter particles which prove irritating to the lining membrane of the lungs. Therefore, as it is well to err on the side of prudence, growing flowers and plants are better excluded from the sick-room.

Before passing on to ventilation, I would mention that soiled linen or slops should never be allowed to remain in the sick-room, and chamber utensils or commodes, after use, should have a teaspoonful or two of a solution of chloride of lime left in them. Chamber utensils should never be allowed under the bed. Without perfect cleanliness it is impossible to have successful ventilation. Clothes should never be washed or aired in a sick-room.

The subject of ventilation is a very large one, and one entire lecture might be devoted to its consideration, but as this cannot be given, I must confine myself to giving you its broad outline, which you can subsequently fill in for yourselves. Ventilation is a subject which will well repay you for any amount of study you bestow upon it.

To maintain an equable temperature in the sick-room a thermometer must be used, and this should be placed at the head of the bed about a couple of feet above the pillow. The temperature should be kept at about 60 to 63° Fahr., except in especial cases, as in affections of the air passages, for instance, bronchitis, diphtheria, and surgical or suicidal wounds of the throat, when the temperature should be some 3 or 4° higher. A warm, but yet moist atmosphere being required for these cases, a bronchitis kettle, or an ordinary kettle to the spout of which is attached a tube to convey the steam into the room, should be kept continually on the fire. The same effect may be more easily produced by placing a towel, wrung out in cold water, before the fire. It is a good plan to make a tent of bedclothes over the head of the patient, and bring the tube from the kettle in under it. This is usually adopted in the case of children when the air passage has had to be opened by the operation of tracheotomy, for the relief of the breathing in croup or diphtheria.

The great difficulty in a sick-room is in keeping the air pure, and at the same time of an even temperature; so, if it is found requisite to have a fire, so much the better, as nothing ventilates a sick-room like it. The fire requires air, and consequently produces a draught. The management of a fire requires great nicety. It should never be allowed to get too low or become roaring. Remember that the early morning, from three to four o'clock, is the coldest part of the day, and at that time the warmth of the body is at its lowest. This is important to bear in mind, as your energy as a nurse is somewhat relaxed after sitting up all night, and it is between these hours that you have to be more especially on the alert, as patients more often sink then than at any other time of the day. Avail yourself of the waking moments of the patient to replenish the fire. A few old wine corks you will find a splendid thing to have by you for resuscitating it when getting at all low. When putting on coals, it is best

to keep an old glove handy, for picking them out with, or do so with small tongs, taking care that only knobbly pieces of coal have been placed in the scuttle. The lumps of coal may be wrapped up separately in pieces of paper, but this is hardly necessary if the above plan is adopted.

A stick should be used instead of a poker, as it causes less noise.

In ventilating a sick-room avoid the two extremes; let the room be neither stuffy nor draughty. See that the chimney, previous to the room being occupied, has been thoroughly well swept, so that a smoky chimney is not a source of trouble and annoyance to the patient.

About 1,500 cubic feet is the requisite amount of space required by a sick person. You can easily find out for yourselves whether you or an invalid are sleeping in too confined a space, by finding out the cubic measurement of the apartment. This is easily done by taking the length, height, and breadth of the room, and multiplying the first by the second, and the result by the third will give you the number of cubic feet.

Fresh air means oxygen; impure air, carbonic acid gas: with the former we live, in the latter we die. Just as a flame dies out for want of oxygen, so would life expire also; and as the one languishes in an impure air, so does the other also.

You will remember that pure air is made up of one part of oxygen to four parts of nitrogen, with a certain amount of carbonic acid gas and watery vapour. The reason for this combination is, that in oxygen alone we should live too rapidly, and consequently nitrogen is present to dilute it. By the process of inspiration some of this oxygen is taken up and used for the nutrition of our bodies, whereas, by expiration, carbonic acid gas is given off. Carbonic acid gas is then the chief impurity in a sick-room, the elimination of which is the substance of ventilation. Its presence produces

languor, loss of appetite, headache, and drowsiness, and if pushed to excess, coma and death.

There are other impurities that we have to contend against, such as the exhalations and emanations from the sick; but these we shall treat of when speaking of disinfectants.

The reason why patients recover more quickly in the country than in town is for the simple reason that the air is purer. Having impressed upon you the importance of ventilation, let us now see how this can be effected.

The means of ventilation may be divided into ordinary and extraordinary.

The ordinary means of ventilation are by the windows, door, and chimney. The extraordinary means are by patent ventilators; and if such are present, see that they are used, and not tied down or choked up with a duster, as is too frequently the case.

There are different varieties of ventilators. Open spaces above the door, or holes in the upper panels. Circular and revolving pieces of glass, with holes in them, fastened to the window. Better still are the perforated bricks, communicating with the outside air or with the chimney shaft. If these are in use, see that the ventilator is self-acting and noiseless.

Best of all are the "Imperial" ventilating tubes, which allow of the air entering the room by vertical currents, and being diffused through the room without the occupants experiencing a draught.

"Windows should be made to open and doors to shut," is an old saying; but I would add that windows should be made to open, top and bottom. I should hardly have thought it necessary to mention this; but in some houses, more especially in the country, I have found many windows that did not open at all, and when cleaned, a ladder had to be put up outside the house—a proceeding attended with some trouble; and therefore the windows were not often cleaned. A window that opens upon a central pivot is the best ar-

rangement, because both sides of the window can then be cleaned without the servant sitting outside on the window-sill.

The best and purest ventilation can only be obtained by the windows, which should be open at the top all day long in the summer, and occasionally during the day in winter, taking care that the patient is protected from catching cold by placing an ordinary screen between him and the open window. An improvised screen can always be readily made by placing a blanket over a clothes-horse. Place wedges or have window-tighteners to prevent the rattling or shaking of the windows, which often disturb the patient and prevent sleep.

Windows, however, should be closed before too late in the day, as the air towards evening, becoming charged with moisture, will make the room damp.

A very simple means of ventilating a room is by Dr. Peter Hinches Bird's plan, which consists in opening the lower sash of the window and filling in the opened space by a solid piece of wood. A free current of air then takes place upwards, between the two sashes of the windows,—the cold air descending and the warm ascending.

Do not have all the fresh air let in in the morning, but let the air be kept continually fresh, pure, and health-giving. It is such a common practice to throw open the windows, dust about generally, make the beds, and dress the patient the first thing in the morning; whereas, by careful attention on the part of the nurse during the night, this may be materially lessened by keeping things in order.

The door is occasionally being opened during the day, and therefore some fresh air is imparted by this means; but ventilating a sick-room by the door is not correct, as the air from this source is always charged with the impure air which ascends from the lower parts of the house. Lastly, there is the chimney, which affords a splendid ventilating shaft. It is for this reason

that every sick-room should have a fireplace. Therefore, see that the register of the stove is open, as more frequently than not the register is down, and ventilation by this outlet shut off.

LECTURE II.

Infection and Disinfection.

Infectious and non-infectious cases; Quarantine of patient; History of a fever case; Disinfecting and disinfectants.

Many diseases are said to be "catching." By this we mean that they are communicable from one person to another if they in any way come in contact with each other.

Oftentimes it is impossible to know how this communication can have taken place; but when driving in cabs, omnibuses, or railway carriages, and continually passing strangers in the street, the means of communication are very much larger than anyone has any idea of. Any disorder which is thus communicable from one person to another is said to be contagious. Disease may not only be "caught" by direct contact, but by persons being exposed to the influence of germs which may be floating about in the air, just in the same way as the seeds of flowers are blown about. Such is termed infection.

Between these two terms—infection and contagion—some persons would draw a distinction; but I would wish you to look upon an infectious disease as one which has arisen by itself, through the agency of some infecting germs either applied by direct contact or which are more hidden and diffusely spread about in the surrounding atmosphere. The infectious diseases include typhus, typhoid, small-pox, measles, scarlet fever, chicken-pox, and diphtheria. These are infec-

tious with different degrees of intensity; small-pox and scarlet fever are most so, and typhoid least of all. In fact, the last is so slightly infectious that it is allowed to remain with other patients in the general ward of a hospital. Non-infectious diseases are those which are not communicable from one person to another, and include ague and simple and remittent fever.

In certain fevers certain substances are more especially liable of communicating the disease than others: the skin and bronchial secretions in measles; the scales from the skin and discharges from the mouth and throat in cases of scarlet fever; the discharges from cholera patients; and the stools in typhoid fever cases;—these all propagate the especial poison of these several diseases.

There are other diseases which are "catching" besides those generally accepted as such; for instance, erysipelas, sore throats, mumps, and even colds. There is great truth in the saying "that a cold is going through the house"; first one member of the household and then another catching it.

Erysipelas is only catching when wounds are present. Therefore, no surgeon would allow of a case of erysipelas remaining in a ward with other surgical cases, but would immediately isolate such a patient.

Infection may be prevented or modified under certain circumstances. By the inoculation of small-pox matter, this disease was produced with the object of rendering the patient insusceptible to it again in the future, a practice, of course, most unjustifiable, as it tended to spread the disease. But we do find that all poisons, once taken into the system, so modify the constitution that it is not so susceptible to the influence of that poison, should it be again exposed to it. Therefore, we find that, after having had any of the eruptive fevers, it is unusual to have them a second time; and if such does take place, the second attack is of a milder description than the one preceding it. Infection may be modified, as seen with

great benefit, although some opinions are to the contrary, in the effects of vaccination, when properly performed, which produces a milder and less severe form of small-pox, if not rendering the individual altogether innocuous to its poison.

There is a certain thing of importance which does not come altogether under the head of disinfectants, but which materially prevents the carrying of contagion to others. I speak of the desquamation of the skin, which in measles is bran-like, but in scarlet fever is of larger size,—the entire skin of the hand at times peeling off like a glove. The drifting of desquamated skin is greatly lessened by keeping the patient frequently painted with olive oil, collodion, or water in which tripe has been boiled. This mode of treatment in cases of small-pox has, besides preventing the drifting of particles, the advantage of relieving the almost intolerable itching, and preventing the terrible scarring which so frequently accompanies this disease. It is noticeable that the face and parts exposed to the light are those which mostly become scarred by small-pox, whereas those parts which are covered by the bedclothes escape. Therefore, light has probably something to do with this scarring, and painting the surface of the skin protects it. This is a better practice than keeping the sick-room dark, which would also have the same effect.

A warm bath, at the end of a desquamating fever if the patient is sufficiently strong to bear it, greatly assists in the separation from the skin of this infecting material. Let also the sweepings from the floor be burnt in the fire of the sick-room itself, and not carried out of it. Cleanliness and ventilation are very important in fever cases. There is no objection to washing a fever patient if lukewarm water and a soft sponge are used,—taking care to expose only a portion of the patient at a time, and to prevent his catching cold. External cold applied to the body in a feverish condition drives the blood inwards to important organs,

and may produce other and more serious complications. The elimination of waste products, then, instead of taking place by means of the perspiration through the skin, is thrown unduly upon other organs: upon the kidneys, which become inflamed, and dropsy is the consequence; upon the lungs, and we have pneumonia; or upon the intestinal canal, as shown by profuse diarrhœa.

By the term quarantine we understand a period of forty days, during which a ship coming from a foreign port, and suspected of having some infectious disease on board, must refrain from any communication with the land.

What we adhere to so strictly on the sea, would be for the best, if carried out as thoroughly, on shore; but where there is the more occasion, there is the less care. Infected persons walk our public streets, are conveyed in public vehicles, and flit away to sea-side lodgings as soon as removal can be accomplished. Happily these offences are now punishable; but the quarantine of patients recovering from infectious diseases is still inadequately provided for, and consequently they are left at large until sufficient time has elapsed to qualify their admission into some of our convalescent institutions.

It is necessary to isolate all infectious diseases until the skin has ceased desquamating, and all discharges likely of communicating the disease have stopped.

In the case of an infectious disease occurring in the house, complete isolation of the patient, both from friends and relatives must be adopted, and the nurse, or the one in attendance, must abstain from mixing with the other members of the household.

All woollen materials, such as carpets, bed and window hangings, and unnecessary drapery, should be removed from the room, as well as all superfluous furniture. All clothes, linen, &c., which have been in use, should be immediately thrown into some disinfectant solution; so also should all evacuations and emanations coming

from the sick patient. Those who are not troubled with fears of personal safety cannot do better than pay great attention to the subject of fevers, as it is with these that you are more especially likely to be brought in contact, and your knowledge of nursing may then be of some practical use to you.

The commencement of every fever case is ushered in by certain premonitory symptoms, alike in all cases. The patient has been sickening or ailing for some little time; he feels chilly, has pains in his limbs, headache, loss of appetite, and disinclination to do anything except to keep quiet. The length of this period varies in different fevers, and is spoken of as the period of incubation.

These symptoms are followed in a few days by a peculiar eruption characteristic of the disease, accompanied with elevation of the temperature of the body, a hot skin, a quick pulse, intense thirst, and with scanty and high-coloured urine. The temperature in a fever case rises several degress above what the temperature of the body naturally is. The normal temperature is about 98.5°, and which in a case of fever may rise to 104°. The elevation of the temperature of the body should be measured by a thermometer, and not judged of merely by the hand, for such kind of observation is extremely fallacious and unsatisfactory. The increase in temperature occurs usually at evening time; and should it be accompanied by other symptoms; such as diarrhœa, sore throat, or a severe cold in the head, you may conclude that some eruptive fever is going to put in an appearance. The eruption usually shows itself first upon the face, subsequently extending to the trunk and extremities, and which, after remaining out for a certain period, begins to fade from those parts where it first made its appearance. The feverish symptoms abate, the eruption disappears, and there is a gradual return to convalescence. Such is the history of a fever case.

Different fevers, as you know, have different rashes,

and several have special accompaniments. Measles consists of a rash of small red pimples, resembling flea-bites, arranged in cresentric clusters, preceded by all the symptoms of a severe cold in the head, and a hoarse cough. The eruption lasts six or seven days, and the whole duration of the disease is completed in from nine to twelve days.

Great care must be taken to prevent the patient taking a chill, which would probably terminate fatally, as the bronchial tubes are already more or less affected.

A fleabite is distinguishable from a measle spot by its having a bright-red central spot, about the size of a pin's point, surrounded by a pink halo or inflammatory area. You should know this, as occasionally amongst the poor a child may be met with so fearfully bitten that you might be led to suppose that it was suffering from one of the eruptive fevers. The absence of all feverish symptoms, and of any elevation of the temperature, should save you from error in diagnosis.

Scarlet fever (scarlatina) consists of a bright scarlet efflorescence, accompanied by sore throat and difficulty in swallowing. The eruption appears first on the face and neck, spreads over the whole body, and terminates in desquamation from the fifth to the seventh day. The fever is frequently accompanied by some affection of the kidneys, and followed by dropsy. The tongue often resembles a strawberry, from its papillæ standing up as bright red spots from the thick white fur; and hence the name "strawberry tongue."

In small-pox we find an eruption which passes through the successive forms of pimple, vesicle, and pustule, accompanied by severe pain, and extreme weakness in the back and loins. When the eruption is fully out, or at its height, the febrile symptoms which had remitted, return, and give rise to what is termed the secondary fever. Chicken-pox much resembles the first appearance of small-pox, but the eruption remains vesicular.

Typhus fever is due to overcrowding and bad ven-

tilation, and is what was known in former days under the name of gaol fever. Happily this does not occur now: our prisons are the perfection of sanitary arrangements, and this disease is now to be seen only amongst the overcrowded dwellings of the poor. This disease is characterized by a condition of stupor and lethargy, passing on to delirium. The rash is a dirty-pink or mulberry hue, with mottling under the skin. The whole illness lasts from fourteen to twenty-one days.

Typhoid, enteric, or gastric fever is the result of bad drainage, arising from defective sewers or cesspools, the fluid from which percolates through the soil and impregnates the drinking-water, or by exhalation from ill-trapped closets, poisons the air of inhabited dwellings. This disease attacks both rich and poor alike. The rash consists of very few bright rose-coloured spots, chiefly on the abdomen. The chief characteristic of the disease is profuse diarrhœa, attended with abdominal pains, headache, languor, and feebleness. The average duration of the fever is about twenty-three days. Death occurs usually towards the end of the third week, and is generally due to hæmorrhage from the bowel or peritonitis. There are other eruptions met with, but these are classified under the head of skin diseases. They are to be distinguished from the eruptive and contagious fevers just mentioned by the absence of all feverish symptoms, as shown when the temperature is taken.

Having described the disease, let us next consider how it is best to prevent the spread of infection to others. This can only be done by scrupulous cleanliness and the disinfecting or rendering innocuous of all things which in any way have been in communication with the infected person.

The bed and bedding on which a patient suffering from some infectious disease has been lying must be thoroughly disinfected. If they are not highly prized they are far better burnt or sent to a cleaners. Such

persons, and also hospitals, have special hot-air chambers for baking infected bedding, and thereby disinfecting them; for there is no better destroyer of infective material than exposure to a temperature of not less than 212°. The clothes of the patient, both personal clothing and bedclothes, are also highly infectious from their becoming saturated with the perspiration, and soiled with other emanations coming away from the sick person. Directly after removal from the bed—whether night-clothes, sheets, handkerchiefs, or what not,—they should not be carried from the room, but they should be immediately immersed and left to soak in a solution of chloride of lime or chloride of soda. Do not put linen into Condy's fluid, without you wish to irretrievably spoil it, from the staining which always takes place. With regard to pocket-handkerchiefs, the less often they are used the better; the mucoid secretion which contains the germs of the disease being repeatedly applied to the inflamed surface, keeps up the inflammation. If an example of this was wanted, it is well seen in cases of an ordinary cold in the head.

Remember, not only the dress, but all articles that have been in use—such as books, papers, &c.,—are far better destroyed; or, if not burnt, must be subjected to a thorough process of disinfection. Do not do, as I have seen done, allow books from a circulating library to be read by an infected patient, and thus help to spread disease at the same time as the books circulate.

After the illness is over, let the clothes be thrown from the window, and not allowed to pass through the house; then let them be destroyed or exposed for some time to the action of the air, or, better still, fetched away in the same way as I recommended in the case of the bedding, and returned when purified.

The evacuations of the patient, whether from the mouth and air passages or from the bowels or bladder, must be received into vessels containing chloride of lime or some other disinfecting solution. The utensil, whatever it may be, should, after use, have some more

of the disinfectant added, and then immediately emptied away. The vessel, after being thoroughly cleaned and brought back, should be again supplied with some more disinfectant, so as to be ready when required.

In the sick-room let everything be kept scrupulously clean, and the windows slightly open, as there is no better disinfectant than fresh air.

There may also be placed about the sick-room and adjoining passages open saucers containing chloride of lime or carbolic acid solution.

As a preventative against infected air passing into the body of the house, a sheet saturated with some disinfecting solution should be hung up outside the door.

What is called an isolation sheet—to be hung outside the door, saturated with a solution either of carbolic (7½ per cent.), Condy, or Sanitas, and kept thoroughly damp by means of a tank above the doorway,—is procurable from W. G. Lacy, Ringford Road, Wandsworth. The tank holds sufficient solution to last for three or four days, and the sheet (the top of which is sewn round a perforated pipe) is kept thoroughly damp by turning the tap every six or seven hours.

It is better, as heated and impure air ascends, that the room with a fever patient in it should be situated at the top of the house.

After the patient has left the room, it should be disinfected in the following manner. Having closed all the windows, chimney, &c., and papered up every conceivable crevice by which air can find entrance, place a couple of ounces of sulphur upon a tin plate, mounted on a tripod standing in a pail of water. Standing the tripod in a pail of water may appear a trifling matter, but I have known a room left, and the burning sulphur, instead of falling into the water and being extinguished, fall upon the floor and set fire to the room. A little alcohol is afterwards poured upon the sulphur, and lighted; the door is then closed, and the room left shut up for three or four hours. The

windows subsequently are opened and the place thoroughly ventilated, and the room afterwards re-papered or colourwashed, and the ceiling whitewashed.

The nurse herself, both for her own sake and for that of others, cannot be too particular about personal cleanliness, as she is usually the sole means of communication with the rest of the house.

Be particular to wash the hands frequently in a solution of Condy's Fluid, pouring some of the same into the water for the physician, at the termination of his visit. Let the cotton dress be clean, and then, if cleanly in her habits, she will run but comparatively slight risk of catching the infection. She may wash herself occasionally in a weak solution of chloride of soda, and gargle her throat with vinegar and water, or a solution of Condy and water. This is all the caution that a nurse need take, and if she is to be so particular as not to stand between the fireplace and the patient, or for the doctor to be careful not to do the same, for fear of being in the current of infection passing towards the fireplace by the draught up the chimney—as you see suggested in some books on nursing,—then the sooner they give up their respective vocations the better. The nurse in attendance upon lying-in patients has to be more especially careful with regard to disinfectants, as these patients are peculiarly liable to catch infectious diseases; and if they do so, the disease almost invariably terminates fatally.

Disinfectants are somewhat allied to antiseptics and deodorants and therefore I will explain the difference between these several terms.

Disinfectants are substances which destroy the specific poisons capable of producing diseases.

The chief of these are chlorine, iodine, bromine, permanganate of potash, chloride of lime, chloride of soda, carbolic acid, and charcoal.

Septic is derived from a Greek word meaning putrefaction, and anti signifies against. Therefore, we have the word antiseptic, meaning a preventative against *putrefaction*,

Antiseptics are, then, substances which prevent putrefaction without necessarily altering the chemical composition of the infective matter. The chief antiseptics in use are carbolic acid, chloride of soda, chloride of zinc, sulphurous acid, ice, and alcohol.

Deodorants remove or overpower smells without necessarily destroying any hurtful material. They are, therefore, rather injurious than otherwise, because they disguise, without rendering innocuous, offensive smells.

It is in the air that are situated the products of decomposition, and, if this is excluded, putrefactive changes will not take place. Every housekeeper knows that when she makes jam, for instance, paper saturated with gin or spirits of wine is placed over the jam itself and then another layer of paper or parchment is fastened over the top of the jar, with the express intention of excluding the air and preventing putrefactive changes.

So is it with wounds: we apply antiseptics to neutralize the effects of foul dressings and fœtid sores, which, if exposed to the air, would undergo decomposition. Powdered charcoal is occasionally used for this purpose.

I would also strongly recommend to your notice Hartmann's wood wool, impregnated with corrosive sublimate, as a capital antiseptic dry dressing.

Some agents are disinfectants solely, and some are disinfectants as well as antiseptics.

Carbolic acid is one of these, and in the form of a solution is frequently used as a dressing to suppurating wounds, and surgical operations at the present time are mostly performed under the carbolic spray.

Cold is an antiseptic, and not a disinfectant. It prevents putrefaction whilst the intensity of the cold lasts, but when thawing has taken place putrefaction can easily occur. You see this well exemplified in the frozen meat brought to this country.

There are several special disinfectants in use, such

as Sanitas, Condy, and Sir W. Burnett's Fluid, all of which are good.

Permanganate of potash is the chief ingredient of Condy's fluid, and chloride of zinc of Sir W. Burnett's solution.

The fumes of sulphurous acid, and exposure to a temperature of not less than 212°, are infallible disinfectants. The action of heat is also exemplified by boiling,—milk and water being thereby disinfected.

Alcohol I mentioned as an antiseptic; so also do some of the essential oils possess preservative powers; and, therefore, when we hear of the Good Samaritan binding up the wounds of the wayside beggar and pouring in oil and wine, we see a reason in this, and know that the use of antiseptic precautions were appreciated and understood many years back.

Before leaving this subject and concluding this lecture, I hope I have impressed upon you all the importance of disinfectants. Without them diseases would be disseminated to any extent; and by their aid you, in the capacity of nurses, may not only limit the propagation of disease, but also assist in a more healthy condition of the patient, and consequently a more speedy return to convalescence.

LECTURE III.

DETAILS OF NURSING.

The nurse; Regulation of visitors; Management of nurses' own health; Washing and dressing patients; Bedmaking; Changing sheets; Lifting helpless patients; Sick diet; Administration of food, medicines, stimulants.

AM I fit to be a nurse? is a question you often hear asked. To which I would make answer, Every woman should be one. It does not matter in what station of life she is, but she ought to be able to turn her hand to the care of the sick; and therefore it should be every woman's ambition to be a good nurse.

The nurse should be always neatly and quietly dressed. A clean print gown is to be preferred to one of rustling silk or woollen texture. An apron with capacious pockets is always useful, and if a knot of some bright-coloured ribbon is fastened at the throat, we have mentioned all the adornments that are requisite. No finery is required, and no jingling ornaments.

A small chateleine may be worn, not one with numerous useless things upon it, which would rattle whenever the nurse moved,—but one with a well-stocked pincushion, safety pins, a pair of scissors, and a housewife with needles ready threaded.

The nurse cannot be too neat in her appearance. Let the hair be dressed in the most simple style that can be adopted, with an absence of all pads, false hair, and other harbours for infection.

One word as to boots. Do not wear any which are

too new, and are consequently noisy or creaky. There is nothing more annoying to an invalid than this: at the same time if too thin a shoe is worn, the feet are liable to become tender. Be quiet, yet not constrained in your movements. Walk without unnecessary noise; but yet do not walk steathily or on tiptoe, as it has a most irritating effect.

Do not whisper in the presence of the patient, but speak out plainly anything you may have to say. It is not talking, but whispering which annoys an invalid. Never discuss with the patient his symptoms, or talk in his presence of his improved condition or decreasing powers.

To regulate the admission of visitors to a sick person is always an unpleasant task. Relatives necessarily think that they have a right to admission. When possible, it is best to carry out the wishes of the patient; but if orders have been given by the doctor that the sufferer is to be kept extremely quiet, then the nearest and dearest must be refused admission. If matters become critical, then of course no medical man would be so unsympathetic as to refuse permission for relatives to be present; but during severe illnesses, and at the time of serious operations, relatives and friends are both far better out of the room.

The nurse should be guided also, as to whether the visit of friends is beneficial or not, by the effect produced upon the patient; for, if flushed and excited subsequent to their visit, she may be quite sure that it was not advantageous; and when visitors are admitted, be careful that they are seated facing the patient and not to one side or behind, which positions are fatiguing to the invalid; and see that they do not stay too long.

In infectious diseases, no visitors should be admitted, whether they may have had the same complaint or not, for fear of carrying contagion to others.

The management of the nurse's own health is a very important matter, both for her own sake, as well as on

account of the patient. If out of health, she cannot have that life and energy to be attentive and social to her patient, besides being herself thereby the more susceptible to infection.

When possible, the nurse should occupy an adjoining apartment which communicates with the sick-room; and should it be a case which requires constant watching, two nurses should be employed, the one to relieve the other. Two hours of out-door exercise daily, and seven hours sleep must be taken by every nurse, and it is better that the two hours of out-door exercise should be taken, not at one time, but to have one hour in the morning and the other hour in the afternoon. An entire change of linen must be made every week, and of the gown whenever it is the least soiled. There must be also daily ablution of the whole body, and care in keeping the hands scrupulously clean.

Nursing institutions generally, and very wisely, send out with their nurses the requisite rules as to daily exercise and hours of rest. The twenty-four hours of a nurse's daily routine should be devoted as follows :—

> "To useful labour, twelve; to slumber, seven;
> To recreation five; the whole to heaven."

When the case is not infectious, the meals of the nurse are best taken with the other members of the household, and away from the sick-room; but if the case is infectious, they should then be taken in the nurse's own adjoining apartment.

Regularity of meals must be adopted, as carelessness and unpunctuality in any one point leads to laxity and irregularity in the whole system of nursing.

The washing of patients is necessary, both for their own comfort and for their well-being. When the operation betakes of the nature of a bath, of course no nurse would undertake so serious a measure upon her own responsibility, but have first the authority of the doctor before so doing.

The face and hands should be washed with warm

soap and water every morning, and the feet at least twice a week. The hair should be brushed every morning, not with a hard brush, but with the softest one obtainable. This is not painful, if done with care, even if spots are present on the scalp. With women, where the preservation of the length and thickness of the hair is a matter of great importance, this is more especially necessary, as the hair falls out not so much from the disease itself as from keeping it unkempt and unbrushed.

The teeth should be cleaned, if not with a brush, with a piece of stick, around which a small piece of lint or soft linen rag has been twisted. In long illnesses, foreign matters are apt to accumulate about the teeth, and become offensive. Certain medicines also discolour the enamel of the teeth, and therefore care should be taken to keep them thoroughly clean. Some medicines, such as the ferruginous preparations, may be taken through a glass tube, and in this way the iron does not come in contact with the teeth, but is conveyed at once to the back of the throat. A simpler and equally efficacious plan is, to rub the teeth after taking the medicine with some stale bread, and so remove all surplus medicine which may be clinging to them.

If the body has to be washed all over, wash one part only at a time, and not expose more of the patient than can be helped, thereby rendering him liable to take a chill; for if such does take place, it is solely the fault of the nurse.

The body linen of the patient should be changed twice a week, and more often when there is much perspiration; but never begin to change the linen until everything is in readiness. Let the clean linen be well aired and warmed before being put on, and every care taken that there is no draught from any open window or door whilst this change of linen is taking place.

When injured persons have to be undressed, extreme care must be taken to give the sufferer as little pain as

possible, and by no careless movement to aggravate the injury. For a simple fracture improperly handled may, as you know, very easily perforate the skin, a compound fracture be produced, and the period of recovery thereby considerably retarded. Take first the arm or leg of the unaffected side from out of the clothing, then slit up the sleeve or leg of the trouser on the injured side, taking care to open up or go as close as possible to the outer seam; and when putting clothes on, the injured side should be dressed first. If the sufferer is a poor man, there should be some compunction about destroying his clothes; but by keeping to the seam of the garment, or the mode of fastening the boot, neither are so injured but that they can subsequently be again made use of.

In burns and scalds, where a large surface of the skin is implicated, it is better to sacrifice the clothing, removing the same piecemeal, and applying immediately, as each portion of the injured skin is exposed, the carron oil or other application which has been previously prepared ready for use.

For me to tell you how to make a bed may appear presumption, but a sick-bed is made in a certain manner, with special objects in view.

As to the component parts of the bed and bedding, these I spoke of in my first lecture, and also as to the composition of a fracture-bed.

A sick-bed is made according to the requirements of each case, that posture being adopted which gives greatest ease to the patient. On the top of the mattress should be the under-sheet, the intervention of a blanket between the two is better done away with, when a prolonged stay in bed is inevitable.

The under-sheet should be tightened several times during the day, more especially if the patient is at all restless, as creases in the bed are not only uncomfortable to the patient, but very productive of bedsores; so also are the presence of stray crumbs, which should be looked for and removed. For the same reason

the night-dress should also be straightened and not allowed to get into folds or creases about the shoulder blades.

Above the under-sheet is placed the draw-sheet. A draw-sheet is an ordinary sheet folded into four thicknesses laid across the centre of the bed, and reaching from the middle of the back down to the knees of the patient.

The object of this sheet is, that when soiled by the discharges of the patient, it may be drawn away, and a fresh portion of the same sheet substituted. This is not satisfactory when there is a large amount of discharge, as it necessitates the rolling up of the dirty sheet, and tucking it under one side of the bed. This is opposed to all notions of cleanliness, and therefore it is better in such cases to fasten an entirely clean draw-sheet to the dirty one by means of safety pins or a few stitches, and draw the clean one under the patient as the dirty one is removed.

A piece of waterproof sheeting is placed between the draw-sheet and the under-sheet, so that if any discharge does come through, the ordinary bedclothes are not soiled. The same should be done also where any applications have to be applied to injured parts, thereby preventing the bedclothes becoming wet and uncomfortable.

The sick-bed should be stripped and remade every day; but if this cannot be done, it should at all events be tidied and put straight. It is a good plan, if the patient is able to be moved, to have two beds in the room, and then one can be left open for ventilation for twenty-four hours, whilst the other is occupied, and the patient moved daily from one bed to the other.

Beds may be arranged in the form of an inclined plane. A bolster placed along the foot of the bed under the mattress allows of the feet and legs being on a higher level than the rest of the body, and consequently the blood is assisted in returning to the centre of the body, blocks of wood placed under the

legs at the foot of the bed answer the same purpose. This arrangement is especially useful in cases of varicosely dilated veins in the lower extremities, where it is desirable to keep the veins as empty as possible during the period of rest. Sometimes the bed is made in the form of a double inclined plane, by pillows placed across the centre of the bed, fitting into the flexure of the knees. This is adopted in cases of operation about the lower part of the body, where relaxation of the muscles of the abdomen is required.

The sheets of a sick-bed should be changed once a week at least, and the draw-sheet whenever the least soiled.

If you desire to change the bedclothes of a patient who cannot get up, the clothes to be removed should be rolled up lengthwise to the centre of the bed, and the fresh clothes, with half their width rolled up, should be laid upon this portion; and then, having moved the patient across the bed to the newly-made half, the dirty clothes are removed and the other half of the fresh bed completed. Another method is to roll the clothes up loosely from end to end, and then, beginning at the head of the bed, place them under the pillow and gradually bring them down under the patient at the same time as the soiled ones are removed: the patient raising, either by himself or by the assistance of others, the several parts of his body, the clean clothes are slipped under him. The upper clothes are, of course, much more easily changed, passing under the upper clothes a warmed flannel blanket prior to the commencement of the change. The counterpane is first removed, and then the blanket; the clean sheet is then put on over the dirty one and the upper things replaced. Finally, the dirty sheet is withdrawn from the foot of the bed, and the inner blanket when the patient feels sufficiently warm and comfortable to part with it. No chill can then possibly occur, and the clean sheet will not strike cold to the patient. The chief thing of importance is to replace

each item of covering by another, instead of removing the whole at one time. The weight of the upper clothes is sometimes too much for the sick person, or painful by reason of their pressure upon some injured part. A cradle should then be placed in the bed, to support the upper clothes; or if this is not procurable, an improvised one is easily made out of an old hat or bandbox, from which the top and bottom have been knocked out, and the side divided in half. A corkscrew passed through the upper clothes and fastened by a cork and a piece of string to the head or canopy of the bed will also answer this purpose. Changing of sheets necessarily entails some fatigue to the patient, and consequently it is best undertaken after a meal or after the administration of some stimulant. Before commencing to change the sheets of a sick-bed, have everything in readiness; and it is hardly necessary for me to say that any change of sheets should have been previously properly aired.

In the case of infants or young children who are helpless, they can be easily lifted in the arms and carried by a single person; but with adults this is, of course, impossible. After operations, when the patient has taken chloroform, and is only partially conscious, and it is considered advisable to remove him to his bed, it is best accomplished in the following manner: —Two persons, one on either side of the patient, lock their opposite hands underneath the person to be raised —one pair of hands being placed below the buttocks, and the other pair below the shoulder blades. The head and feet of the patient should be supported by two other assistants; and the bed being in a line with the operating-table, the four assistants at the same time raise the patient and remove him from the one to the other. If sensible, the patient is able to render great assistance by putting his arms around the necks of those who are lifting him. Another plan is for the four assistants to roll up the sides of the sheet upon which the patient is lying, and, each taking one of the

four corners, the patient can be thus easily moved from place to place; or by placing a pole on either side of the patient and rolling the sheet and under-blanket round them, an improvised stretcher is easily made. Further details upon this subject were given in the "First Aid" Lectures.

A diet table is drawn up, for the express purpose of presenting to the patient certain substances in proper proportions from the animal, vegetable, and mineral kingdoms, all of which are necessary to the wellbeing of man. Persons in bed, and inactive, require less than than those up and about. Therefore, a sick-diet is a low diet.

The sick-diet table I here give you is the one used in the wards of St. Thomas's Hospital:—

12ozs. of Bread.
¾oz. of Butter.
¾ pint of Tea,
With Milk and Sugar, for Breakfast.
The same for Tea.
8oz. of Rice or Bread Pudding,
Alternately, for Dinner.
1½ pint of Milk.

This is for adults. For children under ten years of age the quantities are smaller, and milk is supplied in place of tea. It is the diet upon which each patient is placed upon admission into the hospital, and until seen by the physician or surgeon. Those suffering from febrile complaints are given an even less generous diet than the one above quoted.

The diet of a patient is to be determined by the doctor; and when nine-tenths of diseases are due to irregularities in food-taking, the dietary is one of the most important points in the whole treatment. If you knew, as I do, that the children of poor people are allowed to eat cheese, pickles, potatoes, &c., or "everything we do"—as their parents say when asked,—you would be surprised that illness is not more rife, and

that poor children are not more stunted and deformed than they are. The reason they are not so is that what they lack in nutriment they gain by being constantly in the open air. What they gain by playing in the the streets is withheld from the lower middle-class for reasons of gentility, and therefore it is from this class that are found the more sickly children.

Brown, or rather, wholemeal bread contains all the substances requisite to the wellbeing of the human frame; and upon this and water can the body be sustained longer than upon any other article of food. Wholemeal bread is a substance which ought to enter more largely than it does into the dietary of young children.

Eggs are one of the most useful aliments in the sick-room, either beaten up with some stimulant or with milk. When boiled they are equally nutritious, but with some persons are apt to disagree. A poached egg, where the albumen is allowed to swell, is less liable to disagree than when confined as it is in the shell of a boiled egg.

When nourishment can only be taken in small quantities, there are now many excellent preparations. Liebig's Extract of Meat, Brand's Meat Sausage, and Brand's Essence are all well known to you. These preparations should, when once opened, stand on ice in an adjoining room.

The School of Cookery, although very useful in its way, might be made much more so if it gave more instruction in the cookery applicable to a sick-room; for the beef-tea and chicken-broth that we find usually made for invalids is more often greasy and distasteful than appetizing and nourishing. There are white earthenware pots now manufactured, having a tap at the lower part of the vessel, by which the fluid at the bottom of the jar can be withdrawn, whilst leaving the upper strata of fluid, on which the fat floats undisdisturbed. If such an apparatus is not to hand, the fat—of which there is always some, no matter how

carefully the beef-tea may have been made,—should be absorbed by using pieces of blotting-paper.

Every nurse should taste the food she is supplying to her patient, to be sure that it is good—not too warm, the milk not sour, nor the eggs bad.

Do not ask a sick person what he would fancy for his dinner, but let the nurse provide what she thinks the patient would like best. Of course, if a wish is expressed, and it be suitable, let it by all means be carried out; but to discuss or let the invalid know what is to be supplied in the way of nourishment is a mistake, and more often than not sets the patient against the food when it is put before him. Whatever is ordered, let it be served simply, yet tastily. Sometimes patients ask for the most odd and apparently indigestible articles of food, and will, by reason of their fancying them, manage to digest them. This can, of course, only be allowed in exceptional cases.

Giving invalid children their dinner on fancy plates with some fairy-tale pictures on them, for instance, is an excellent plan for getting them to eat up their food, changing the plate daily.

If the patient refuse food, do not force it upon him; but remove it away altogether out of the room, and try again later on with something else that you fancy may be preferred. Do not allow a rejected meal or the remains of one to be left in the sick-room, but let it immediately be removed to a table which is well placed outside the sick-room door. Where there is a dressing-room adjoining, clean glasses, either for medicine or nourishment, with ice and other sick-room condiments, should be kept there ready for use. Ice should always be kept in this adjoining room, wrapped in flannel, and placed in a washing basin. Small pieces can then at any time be chipped off by means of slight knocks given by an ordinary needle or blanket-pin. If vomiting is frequent, small pieces of ice are very useful, or iced milk and soda-water in small quantities may be given at intervals.

When there is difficulty of retaining any food upon the stomach, small quantities, often repeated, answer where a large meal would fail.

In cases of obstruction or operations upon the lower bowel, where it is desirable to keep the parts at rest as much as possible, food should be given which, when digested, leaves hardly any residue,—such as strong beef-tea, milk, and essences of meat. The taste of food is occasionally lost in consequence of the mouth being dry and parched; but by first washing out the mouth, or by sucking a piece of a fresh lemon, the palate is cleaned and the food appreciated.

Where the patient is unable to sit up in bed, the sustenance is best given by means of a feeder, in form like a half-covered-in tea cup with a spout. When giving fluid to children to drink, give them in the feeder all that you wish them to have, and not have the pain and trouble of withdrawing it from them when you think they have had enough.

Be on the look-out for "nice things" being given by fond parents to their spoilt children—such as sweets, cakes, fruit, &c. We have more trouble with our little patients in hospital after a visitors' day than we have on any other day in the week.

In the administration of food, as well as in the giving of medicines, be punctual. The appetite may at one time be present, whilst at a later period it may have turned to sickness and an absolute loathing for food altogether.

A very good plan is for the nurse to keep a record on a slate of the amount of nourishment taken, and the hours at which it was given, and this can then be shown to the doctor on his arrival, and his opinion taken as to its efficiency. On the same slate may be also noted the hours at which stimulants and medicine have been given, as well as the amount of sleep and other impor tant observations.

If a patient is asleep, is he to be awakened to take his medicine or meals? This is an important ques-

tion, and is answerable in both the affirmative and negative. By all means, yes, if the night hours are duly and properly devoted to sleep. But by no means if pain and restlessness have occasioned sleepless nights; for then the sleep which comes to a patient is a matter of life or death, and must be taken as a critical turning point, from which the invalid will awake the better or worse.

Medicines are administered at certain hours, according to directions; and to carry these out properly it is necessary that you know certain abbreviations and symbols made use of by doctors when writing their prescriptions. Happily, much of the dog-Latin in which they were formerly written is now dying out, and many physicians now write their directions of how the medicine is to be taken in plain readable English.

The following are the most important abbreviations that you should know :—

Alterna nocte	...	a. n.	Every other night.
Ante cibum	...	a. c.	Before meals.
Bis die	...	b. d.	Twice a day.
Hac nocte	...	h. n.	This night.
Horæ somni	...	h. s.	At bedtime.
Omni nocte	...	o. n.	Every night.
Post cibum	...	p. c.	After food.
Pro re nata	...	p. r. n.	Occasionally.
Si opus sit	...	s. o. s.	If necessary.
Statim	...	stat.	Immediately.
Ter die	...	t. d.	Three times a day.
℥tis ℔tis horis	...	—	Every 3 or 4 hours.

Besides these abbreviations there are the directions as to the quantity of the medicine to be administered. These are usually written in symbols, thus :—

Gr.xx, = ℈j, one scruple. ♏xxx, = fl.℥js, one half fluid drachm.

℈iij, = ℥j, one drachm. fl.℥viii, = fl.℔j, one fluid ounce.

℥viii, = ℔j, one ounce. fl.℔xx, = Oj, one pint.

Spoons and glasses vary so in size that it is advisable to be accurate as to the measurement of medicine, and therefore it is best given in a properly-graduated medicine glass. But, roughly speaking, a teaspoonful measures one drachm, a dessert-spoonful two drachms, a table-spoonful half an ounce, and an ordinary sherry glass two ounces.

The majority of medicines are ordered to be taken twice or thrice a day. The hours at which these divisions are best made are at 10, 3, and 7 o'clock when three times a day, and 10 and 5 o'clock when only twice a day. One hour should elapse between a meal and the taking of medicine, and also the same time should intervene before the taking of the next meal. Some medicines are ordered to be taken at specified times, according to the effect desired. Narcotic medicines being given to produce sleep, are consequently administered just before bedtime; whilst anodynes, being for the relief of pain, are given after an operation, or when required.

Certain medicines are ordered to be taken before a meal, when it is desirable that they should be quickly absorbed into the system; whereas others are taken after a meal, when there is any fear of their irritating the stomach—such, for instance, as arsenic.

Medicines given for the improvement of the blood and general nutrition of the body are also best administered either at or soon after a meal; and medicines given for the destruction of intestinal parasites are always administered upon an empty stomach, and followed after a certain interval by some purgative.

The administration of effervescing medicines or Seidlitz powders may be properly or improperly given. Each powder should be dissolved in separate tumblers of water, so that when poured together no sediment of undissolved powder is found at the bottom of either glass. When medicine has to be given, give the requisite quantity, and at the stated time. It does not do to forget and then double the dose at the

next opportunity, as an increased quantity may not only be hurtful but absolutely dangerous.

Be careful of keeping medicines for internal use separate from bottles containing external applications, for fear of any mishap, and the one being given in mistake for the other.

In giving medicine to children be firm, and then they, knowing that it has to be done, will in the majority of instances take the medicine without trouble. Occasionally force must be used, when persuasive powers have no effect. This is done by pinching the nostrils closely with the finger and thumb of one hand, whilst the medicine is passed well to the back of the throat with the other hand, and thus the patient is compelled to swallow before he is able to take breath.

Powders given to children are best taken plain ; if not, they should be mixed with a little water and made into a mixture; but the practice of putting powders into jam or between bread-and-butter is a practice of deception which is usually found out and not to be advocated.

Cod liver oil is always nasty and difficult to take. The best plan is to pour the oil into a glass, into which a small quantity of water has been previously poured, and then on the top of the oil pour some orange or ginger wine. Some patients have a preference for taking it on milk.

The form in which the medicine shall be administered is important, and probably, in the shape of a pill, is the least nauseous. But whilst everybody has some way of their own for swallowing a pill, there are others that can never swallow one at all. A small pill is always more difficult to swallow than a large one. Pills may be silvered, and a gilded pill is proverbially easy of being swallowed.

Medicines are never nice, and some are exceptionally beastly. I think in this matter some blame is attributable to medical men. They do not attach sufficient import-

ance to making their prescriptions palatable; where, by the addition of certain ingredients, or by the use of other compounds equally serviceable, the same ends might be attained. I do not mean for doctors to give way to all the fads and fancies of their patients, but to try and make the medicine as agreeable as they conveniently can. In England we still adhere to the old and somewhat brutal method of giving nauseous medicines wholesale, with a glass of water or a spoonful of sweetmeat to be taken afterwards for the removal of any objectionable taste. The American chemists are more skilful, and have learnt how to enclose unpleasant doses with a thin covering of gelatine. The capsule, as it is termed, is perfectly tasteless. It is about the size of a grape, can be swallowed whole, and is easily dissolved by the action of the stomach. These capsules also secure portability and preservation of the qualities of the drug in any climate. They are manufactured by Messrs. McKesson and Robbins, and are procurable at Messrs. Burroughs, Wellcome & Co., Snow Hill, London. I should also mention Wyeth's Compressed Tablets, which are very useful. They form a most convenient mode of carrying about a gargle, as they are small in size, and can be easily carried in the waistcoat pocket. Two other excellent preparations there are which are peculiarly well adapted to children. The taste being by no means unpleasant, they are frequently prescribed by medical men. I mean Parish's Chemical Food and Burrough's Beef and Iron Wine.

Stimulants are, in some cases of illness, absolutely necessary, and even teetotalers and blue ribbon advocates have dispensation under such circumstances. As to the special form of stimulant to be used, that must be left to the discretion of the doctor. Brandy is probably at the top of the list, but port is necessary to some and contraindicated to others; whilst hollands and gin are especially applicable to persons suffering from urinary disorders.

The entire withdrawal of stimulants from injured persons who have been in the constant habit of taking them tends greatly to the production of delirium.

The stimulant ordered should be given at intervals throughout the day, always reserving some for use during the night.

LECTURE IV.

Details of Nursing—(continued.)

Observation of the sick; Rigors, Sleep, Pain, Posture, Skin, Appetite, Vomiting, Cough, Expectoration, Effects of remedies, &c., Temperature taking; Baths; Bed sores; Delirium; Nursing sick children, What to prepare for Physician's and Surgeon's visit.

The duty of a nurse is to serve and observe the sick. Almost the first question a doctor asks upon entering the sick-room is, "Well, nurse, how is the patient this morning?" Now, a nurse must be able to answer this question truthfully, and without any exaggeration or depreciation.

Be accurate. If the nurse cannot trust to her memory, let her put down on the diet chart the number of hours sleep, as well as any other observation of consequence that she thinks the doctor should be made acquainted with upon his arrival.

The nurse must judge for herself whether the patient is better or not. She can come to a right conclusion in many ways. Is the patient more cheerful?—Has he a better appetite?—Does he feel more inclined to help himself?—or does he seem more languid, lean more heavily when supported, and at times become listless and indifferent? We will take now, seriatim, the several matters which demand the nurse's observation.

All fevers, and many other illnesses are ushered in by a rigor. A rigor means a shivering-fit. The patient

trembles all over, feels chilly, the teeth chatter, and there is a general sensation of something going to happen; and with this apparent coldness there is an increase or rise of the natural temperature of the body, which may reach 106°. On the subsidence of the shivering, the patient breaks out into a profuse perspiration, and lies utterly exhausted. A single rigor is generally the premonitory sign of coming illness, whereas several rigors accompany attacks of ague or the formation of abscesses. This latter is well seen in cases of pyæmia, or blood poisoning.

On the occasion of a rigor taking place the nurse should cover the patient up with an extra blanket, give him some warm tea or brandy-and-water, and put hot-water bottles to the feet. The duration of the rigor should be noted, and the doctor acquainted of the fact.

Sleep is caused partly by exhaustion of the nervous system, and partly by a languid circulation of the blood through the brain. The reverse of these conditions produces wakefulness.

The amount of sleep requisite to the human frame cannot be dogmatically stated. Some persons require more than others, the weakly more than the robust. However, sleep is a luxury which may be indulged in to excess, and becoming a habit, is not easily broken through. It is said that,—

> Nature requires five; Custom gives seven;
> Idleness takes nine, Wickedness eleven.

Sleep is frequently taken unknowingly, and therefore the nurse must be particular to note when it is taken, as patients frequently deny having dropped off at all.

The nurse should observe also how long the patient sleeps, and whether that sleep is calm, restless, or accompanied by muttering delirium, or startings.

The sleep that comes naturally is far better than that obtained by artifical means.

Narcotics are occasionally absolutely necessary, but as a rule they are bad. Headaches frequently follow their use, and once adopted, they have to be continued with increasing strength, to obtain the same result.

"The wooing of sleeping," as Dr. Mortimer Graville aptly calls the trying to go to sleep, is a habit which no stupefying drug can rectify. A narcotic may be given to relieve pain, or to break the chain of a bad habit, but its continuance can only be injurious to the nervous centres.

"Striving to go to sleep," he says, "is an effort which is the principal cause of wakefulness. Sleep must come naturally, as a consequence of being weary and sleepy."

Narcotics, if required, are best given in the form of a subcutaneous injection.

A fold of skin is taken up with the finger and thumb, and the point of a tubular needle is thrust well under the cuticle. The solution of morphia contained in the syringe attached to the needle is then injected. The finger and thumb follow the needle or canula as it is being withdrawn, so as to prevent any escape of the injected solution.

Pain is due to pressure upon the terminal ends of sensory nerve fibres. Some persons are more sensitive to pain than others. The more highly civilized, the more acutely sensitive.

Pain differs in character, and may be described as dull, gnawing, intermittent, &c. Without giving a leading question to a patient, the answer as to "What sort of pain is it?" will render you some idea of the nature of the complaint.

Pain which is present at one time and not another is generally due to some neuralgic affection.

Shifting pains are usually rheumatic ones, whereas a continuous or throbbing pain is usually inflammatory.

Stabbing or shooting pains are sometimes complained of. These are frequently found in cases of cancer,

when the skin is becoming involved, whilst the term griping is usually referred to pains in the intestinal canal.

Observe whereabouts the pain is, and whether it is increased or relieved by pressure. See also if it is imaginary by diverting the patient's attention, and then applying pressure. This form of pain is usually found in hysterical patients.

The posture in which a sick person is in the habit of lying is peculiar to the disease from which he is suffering; that one being chosen which affords the greatest ease. To sleep on the right side of the body is said to be the best position to repose in, as the heart, then being uppermost, is not subjected to pressure by any superjacent structure.

In diseases of the lung, patients usually sleep or lie upon the affected side, thus allowing the unaffected lung to have freer expansion.

Whereas in diseases of the abdominal viscera, the patient usually lies on the healthy side, to relieve the inflamed organ from all pressure; and in cases of inflammation of the lining membrane of the abdomen (peritonitis) the knees are drawn up, so as to relax the muscles forming its front wall.

A helpless attitude on the back denotes loss of power, as in the paralytic; or extreme weakness, as in the last stage of typhus fever.

When patients have a large amount of fluid in their lung cavity, they prefer to lie propped up in bed with pillows, so that the fluid, by its weight, may gravitate as low as possible, and not impede the breathing more than can be helped.

The same position—that is with the head elevated—is also best in cases of apoplexy or cerebral congestion, as the quantity of blood in the brain is thereby lessened. The reverse, or with the head low, should be adopted in cases of great debility or faintness. Fainting being due to a paucity of blood in the brain, the recumbent position should be chosen. It is for

the same reason that great care should be used in raising very weak patents, as faintness may ensue, or even death take place.

The skin forms one of the channels by which nature is able to get rid of some of its effete material. It also regulates the temperature of the body. These functions of the skin are of great importance, and are performed by means of perspiration.

The nurse must observe the condition of the skin in cases of illness whether moist or dry, hot or cool; also as to the presence of any rash.

The odour of the perspiration is naturally sour, but this is occasionally intensified.

What a valuable agent the skin is, is well seen in cases of rheumatic fever, where nature gets rid of the disease by a profuse sour perspiration.

Perspiration may be continuous, as in cases of fever, or nocturnal, as in cases of consumption.

Night perspiration in children is indicative of weakness, and with the habit they have of throwing their arms about, and becoming uncovered during the night, it is advisable that they sleep in flannel night-dresses.

The amount of perspiration given off by the skin is in an inverse proportion to the water given off by the kidneys; and therefore in disease of these organs, they are relieved by the use of warm baths and diaphoretics, which have the effect of increasing the action of the skin.

The amount of water secreted by the kidneys during twenty-four hours is about a couple of pints. This quantity is lessened by a febrile condition of the patient, and largely increased in cases of diabetes. Therefore, if an extraordinary amount of water is voided, it should be reported.

Some water (that passed first thing in the morning is best) should be saved and shown to the doctor on his arrival, as he is sure to ask for it.

This is more especially necessary in cases of scarlet fever. It should be placed in a tall champagne or

specimen glass, so that the whole amount can be clearly seen; a card or piece of paper being placed over the top of the vessel, to prevent decomposition, and the urine becoming ammoniacal. Sediments, cloudiness, or a brick-red condition of the water indicates certain diseases, of which the doctor should be made acquainted.

A loss of appetite and distaste for food is one of the earliest signs of indisposition; and on the other hand, an increasing appetite is one of the earliest indications of convalescence.

A good appetite is a great blessing, and a bad one is a sure sign of something being wrong somewhere, either want of exercise and fresh air, or excesses either in smoking, drinking, &c. A ravenous appetite may be due to a patient recovering and rapidly picking up strength after some illness, whilst the same appetite without any appreciable cause may be due to the presence of intestinal parasites. A depraved appetite is occasionally met with, and is found usually in girls, who will eat anything, from slate pencils upwards. Incentives to appetite are not good, because they are unnatural. What nature wants she demands; what she does not want she rejects.

The stomach, if unduly loaded or treated with things disagreeable to it, very wisely gets rid of them by the process of vomiting. We see an example of the first when infants take too large a quantity of nourishment, and of the second when an excessive quantity of any nauseous medicament is administered. A feeling of sickness may also occur from want of food. Vomiting, or the rejection of the contents of the stomach, may be due to disease; and when occurring soon after a meal, it is referable to some disease of the viscus itself, but if occurring at a longer interval, then to some complaint lower down the intestinal canal. Some persons possess the power of vomiting at will. Vomiting may, and very frequently does take place after the administration of chloroform.

Mal-de-mer, or sea sickness, is a form which is trying to many. A bag of ice applied to the whole length of the spine is in some cases necessary. If persons would prepare themselves previous to taking a sea voyage by getting rid of all superfluous bile, and by partaking of a good meal a couple of hours before starting, many would not suffer in the way they do. This does not apply to all, as some persons always are seasick. The horizontal posture, and a diet of the driest champagne, and the lean of cold ham, I have found succeed with many patients when other things have failed.

Persistent vomiting is best treated by rest; subsequently giving ice in small pieces, or small quantities of iced milk and soda water at frequent intervals. The character of the vomit may be food in process of digestion, clear liquid, bile, or blood. Fœculent vomiting is a symptom of obstruction in some part of the intestinal canal.

Coughs are of different kinds, and therefore the nurse should be able to describe its character, and at what times the fits of coughing occur. A cough may be dry, that is, unattended by any expectoration, or moist, that is to say, accompanied by sputa.

Coughs have different sounds, and you hear persons talk of a churchyard or hollow-sounding cough, as well as of a whooping cough. The latter occurs in paroxysms; the peculiar whoop is occasioned by the air being suddenly drawn into the air passage, which at the time is in a state of tension.

The expectoration or sputa coughed up from the lungs often furnishes important information, but it must be borne in mind that substances spat out may consist of the secretions of the mouth, throat, or nasal passages, as well as from the stomach.

The nurse should be able to report as to the nature and amount of the expectoration; which may be thin watery mucus or stringy and tenacious to the bottom of the spittoon. Again, the expectoration may

be wholly or chiefly composed of matter, or pus. When rusty or prune-coloured, it may be taken as evidence of some inflammation of the lung; and when streaked with blood, as proof of a rupture of some blood-vessel.

Blood coughed up from the lungs is called hæmoptysis, and is usually of a bright-red colour, whereas that vomited from the stomach is termed hæmatemesis, and is usually of a darker colour, and more profuse, due to its impregnation with gastric juice.

The expectoration should be received into a small vessel with a funnel-shaped lid containing a little water, and in which there should be some disinfectant if the expectoration is at all offensive. Children are very apt to swallow their expectoration, and this should be guarded against.

A nurse should notice the effects of the remedies prescribed, and report them to the doctor.

All medicines are given with a special object, either as purgatives, tonics, &c. Did the narcotic produce sleep, or has it lost its efficacy, and the strength of the dose require increasing?

Did the medicine given to cause a profuse perspiration have the desired effect?

Certain medicines sometimes produce undesired effects; for instance, iodide of potassium produces great depression and all the symptoms of a severe cold

Quinine with some people causes throbbings in the head and ears, and occasionally deafness and coma; and with arsenic is sometimes found irritation of the alimentary canal, and of the mucous membrane of the eyes.

Mercury, if pushed to excess, causes sponginess of the gums, loosening of the teeth, and profuse salivation. All of these points should be borne in mind, and the doctor informed of them.

The thermometer is a most useful guide in disease, as an increase of temperature cannot be feigned, and therefore must be genuine. It is also useful, by look-

ing at the daily recorded temperature of a patient, to prognosticate by a sudden rise that a relapse is about to take place, or by a gradual decline from a high temperature that there is an improvement and a return towards convalescence. When the temperature falls from the evening to the morning, it is a sure sign of improvement, whereas a rise of temperature from the evening to the morning, is a sign of the patient getting worse. The normal temperature of the human body is 98·5°, varying but slightly throughout the day. A constant temperature is indicative of health, and an increase of temperature denotes disease. Any rise of temperature beyond 98·5° shows that the individual is ill; if above 105°, that he is in imminent danger; and if above 106°, a fatal issue may be expected. It is impossible to judge of the temperature of the body by merely applying the hand to the surface of the skin, and that is the reason for using a thermometer.

The thermometers that we use are made of glass, about the size of a small pencil, and comprise a bulb containing the mercury and a graduated stem. The bulb is placed in the armpit, and the stem is graduated from 90° to 112°, each degree being again subdivided into ten parts by small lines which represent the decimal points. A self-registering thermometer, or one having an index, is the best form to use, as it can be taken out of the armpit and read without the mercury subsiding. Care must be taken when using such a one that the little indicator is well shaken down before attempting to take the temperature.

When patients are very thin, it is a good plan to surround the thermometer with some cotton wool, and thus keep it more directly in contact with the axilla.

The temperature should be taken twice daily, between 7 and 9 o'clock in the morning, and between 5 and 7 o'clock in the evening, and be left in the armpit from three to five minutes. The morning temperature should be taken before the patient is *washed.*

The temperature should be taken at the same time every day, left in the armpit the same space of time, and the same thermometer used for the same patient. It is usually taken in the armpit, but it may also be taken in the mouth, under the tongue, or in the rectum.

The cavity of the mouth is, however, not a good place, because the temperature there is liable to variation, from the air passing down the back of the throat; in addition, the mercurial bulb stands a very good chance of being bitten off by any sudden closing of the teeth.

Keep the temperature upon a proper chart; and you cannot do better than use those sold by Messrs. Wodderspoon & Co., of 7, Serle Street, Lincoln's Inn, from whom you can also obtain diet charts; and then the daily record of the case can be kept in a proper and systematic manner.

A bath should never be given without the sanction of a medical man in attendance.

A cold bath should on no account be administered to infants. The supposition that it strengthens them is a mistake, and more children die under this process of hardening than not.

Baths for children should always have the chill taken off. If it is desirable to produce a slight shock to the system, let the child stand in a warm bath before a fire, and then be sponged over with cold water.

Brill's or Tidman's sea salt dissolved in the bath is very beneficial to delicate children and those unable to get to the sea coast. The railway companies will now supply the real article at your own doors.

Sea bathing, however, just as cold bathing, does not suit everybody. If any person, after taking a cold bath, is blue, cold, and shivering, it is a sure sign that it does not agree with them; but if the skin becomes red, warm, and of an agreeable glow, it may be taken as a proof that it is doing them good.

There is this, however, to be said, that many persons do not know how to take a cold bath. They stay in

it too long, and dawdle about instead of dressing themselves again immediately. Boys are more especially to blame in this matter, as, instead of taking a swim and directly afterwards dressing themselves, they frequently spend hours in the bath, standing about, shivering at the side of the water, and talking to others, with an occasional swim.

Ladies have wisely given up the old heavy blue serge bathing-gown, and can now use their limbs, instead of bobbing up and down in the senseless manner that they were formerly compelled to do by reason of their dress.

It is an excellent plan, upon coming out of a cold bath, to wrap up immediately in a warm flannel blanket, which acts as a towel and a wrap at the same time.

The following are the temperatures of ordinary baths :—

A cold bath, 33° — 65°
A warm bath, 92° — 98°
A hot bath, 98° — 112°

A hot bath is relaxing, and therefore no patient should ever be left alone in such a bath.

Packing of fever cases has of late become very general. It is accomplished in the following manner : A piece of waterproof sheeting is placed over the mattress, and then a couple of thick blankets. A large linen sheet, wrung out of cold water, is now placed on the bed, and the patient, denuded of all clothing, is wrapped up in the wet sheet and one blanket ; the other blanket, after a short interval, is also wrapped round the patient. After a space of three or four hours the packing is removed, the body of the patient wiped dry with a soft towel, and again wrapped in a flannel blanket, and placed in bed.

There are also special baths, or baths for special cases, as mercurial baths or sulphur baths in certain skin diseases, and alkaline baths for gout or rheumatism.

Turkish or vapour baths are occasionally ordered, and if the patient is unable to leave the house they may be given in the following manner. A bucket full of steaming water or a small spirit lamp with a vessel of water boiling above it, is placed under a cane-bottomed chair upon which the patient sits enveloped in blankets or waterproof sheeting reaching from around the neck to the ground. The patient is afterwards well rubbed down and wrapped in a clean warm flannel blanket and put to bed. Medicaments are sometimes placed above the spirit lamp in lieu of water.

Bedsores are the result of long continued pressure, and therefore they are usually met with over the prominence of the buttocks, and the bony part of the shoulder blades, as well as at the heels and elbows.

A bedsore may vary from a simple redness of the skin to a deep sloughy, dark-coloured sore, extending down to the bone.

Bedsores, in cases of paralysis, and in people of languid circulation, cannot be altogether avoided, but more frequently than not they are due to want of care on the part of the nurse. In cases of paralysis, where a long confinement to bed is entailed, a proper water-bed should be obtained.

As prevention is better than cure, the back should be examined daily, and washed over with a solution of spirits of wine or Eau de Cologne, and after having been thoroughly dried, dusted over with some oxide of zinc, oatmeal, or violet powder.

Lime or lemon juice may be also employed for hardening the skin; but no matter what is used, it should be allowed to remain on for some two or three minutes before being wiped off, so that it may soak into the skin and harden it.

The patient should be kept perfectly dry and free from all discharges. The under-sheet should be tightened several times during the day, and kept free from crumbs. The nightdress must be also pulled down, and not allowed to get into rucks or folds.

When a bedsore has once formed, it must be treated as any other ulcerated sore, and all pressure taken off it by means of a circular pillow or a thick piece of felt, cut after the manner of a corn plaster. The sore itself should be dressed with benzoic ointment, or, if sloughs are present, by a linseed or charcoal poultice.

Let the nurse make notes of any excitement or restlessness during the sleep of the patient, because the transition from this state of mind to one of delirium is by easy gradations.

Delirium may vary from a muttering unconsciousness, which is found occasionally in febrile diseases, to one of constant and violent delirium.

Delirium tremens is another form of delirium met with, and which may be due either to an excessive amount of drink taken at one time, or to the sudden discontinuance of drink in one who has been in the constant habit of taking it. Delirium tremens takes its name from being accompanied by trembling of the limbs, and by a busy and anxious state of mind.

In delirious cases, a quiet, calm determined manner on the part of the nurse will usually succeed in quieting them, without it being found necessary to resort to forcible restraint. Do not contradict nor argue, but humour them, whilst remaining firm.

A broad sheet fastened across the bed, so as to tie the patient down, will, in some cases, be found necessary if the patient is continually trying to get out of bed. Therefore, see that the windows are kept securely fastened, and the door of the room locked. Should the case be very serious, then a male attendant must be employed, and a strait jacket put on.

The nursing of sick children is a special gift; it cannot be taught; it comes intuitively. Some people are naturally fond of children, and others are not; and children having greater perception than we give them credit for, know as well as possible, and take to them accordingly.

Infants cannot speak at all, and children can only

express themselves imperfectly; therefore, it is only by studying signs and movements that the nurse or doctor can arrive at the cause and situation of the complaint. A nurse who is constantly with a child can, if she be efficient, tell the doctor, who is only present occasionally, much that he would like to know. But a nurse is absolutely useless at the sick-bed of a child if she has not a liking for children, studied them during health, and can be childlike herself.

I, who am passionately fond of children, can say that I have never had any difficulty in obtaining their confidence; and one of the most painful duties I have ever had to perform as a surgeon is to inflict pain upon them. They are not old enough to understand that it is necessary for their good; and therefore it behoves a surgeon or nurse, whilst being firm, not to inflict unnecessary pain, and by gentleness of manner and soothing words to gain their confidence and win their love.

The nurse should always be ready for the doctor whenever he may pay his visit. If she performs her duties properly, things are always in readiness; and his visit at any time should in no way put her out, but find her with everything in order and quite prepared. The report of the case since his last visit should first be handed to him, in order that he may see that his directions have been carried out, the quantity of nourishment taken, the amount of sleep obtained, and other important observations that she may have thought necessary to note down. Any excretion, such as sputa, urine, or action of the bowel, that she thinks should be seen by the doctor, should be shown, and immediately removed again out of the room.

I say advisedly, removed again out of the room; because, as I previously told you, no excretion of the patient should be allowed to remain in the sick-room.

There are also certain things that may be required, and which should be in readiness—such as cold cream or common lard, olive oil, small sponges, nursing or

safety-pins, a dessert spoon, hot and cold water, old pieces of linen, and plenty of towels. Into the water in which the doctor will wash his hands place a certain quantity of Condy's fluid; and also have pen, ink, and paper ready, in case a prescription has to be written.

Under What to prepare for the surgeon's visit, I would add preparation of the patient himself, when an operation has to be performed under some anæsthetic. In addition to keeping up a patient's courage and not making any allusion to the forthcoming operation, there are certain details which have to be carried out. An aperient should be given over-night, and an enema first thing in the morning. No food of any kind should be taken for four hours at least, previous to the time of the operation; and the meal last taken should be either good strong beef-tea or a mutton chop finely minced.

The former is the better, as frequently the chop, although finely minced, is not digested, by reason of nervousness interfering with the process of digestion.

No tight garments should be allowed anywhere about the neck, chest, or abdomen, and all artificial teeth removed. A single artificial tooth is more dangerous if left in than a whole set, for the reason than if it became detached whilst the patient was insensible, it might drop down into the trachea, and occasion impediment to the breathing, if not suffocation.

A kitchen table, or a couple of flat dressing tables placed end to end make the best operating table, which should be stood upon a piece of oilcloth or kamptulicon. A blanket, an old sheet and pillow, should be laid upon the table, and a strip of waterproof sheeting placed under that part of the body that is to be operated upon.

By remembering these small details, you will not only save time, but help very materially the doctor, who would otherwise have to instruct you as to what would be required.

LECTURE V.

Application of Local Remedies.

Poultices; Fomentations; Blisters; Ointment; Leeches; Padding Splints; Bandaging; Personal and family Hygiene; Management of convalescents.

The use of poultices is to apply and retain heat and moisture, to assist the inflammatory process, to allay pain, and to clean suppurating and offensive wounds. They may be made of linseed meal, bread, mustard, charcoal, carrot, or yeast.

A linseed poultice is made in the following way:—Into a basin previously scalded place the ground meal, sufficient for the size of the poultice required; pour scalding water gradually upon it, stirring it well the whole time with a large table-knife. The poultice is spread upon paper, or better still, tow; the tow is then folded around the edge of the poultice, so as to retain the heat as much as possible. A few drops of olive oil may be sprinkled upon the surface of the poultice, to prevent it sticking to the skin, or a single fold of muslin may be placed over the top of the poultice, for the same purpose.

By making a linseed poultice in this way, instead of sprinkling the linseed upon the boiling water, as is sometimes recommended, an unnecessarily large poultice is prevented.

A poultice made to cover the whole chest is called a jacket poutice, but one so large as this is seldom required.

A bread poultice is made in exactly the opposite way to a linseed one. Stale white bread-crumbs are dropped into boiling water, and the cup in which the poultice is being made should be covered with a saucer, and allowed to stand for some minutes by the side of the fire. The water is then drained away, and the pulp applied upon a piece of linen.

A yeast poultice is made by mixing half-a-pint of yeast or beer grounds with one pound of linseed meal or flour. The mixture must be warmed until it swells, when it is ready for use.

A charcoal poultice is an antiseptic one. Finely-powdered charcoal is mixed with a bread or linseed poultice, and a little more charcoal is sprinkled over the surface of the poultice after it is made.

An ice poultice is made by placing small lumps of ice in a linseed poultice made with cold water. The linseed acts in the same way as the flannel cloth, in which we usually wrap up ice, and prevents too speedy melting.

Mustard poultices may be made entirely of mustard, or of equal parts of mustard and linseed. The mustard should be made into a paste with cold or tepid water, and spread in a thin layer on brown paper, and covered with muslin. The time that a mustard poultice should be kept on depends upon the result desired to be produced.

Twenty minutes is about the usual length of time, for, if kept on too long, blistering of the skin would take place. Even this period would be too long for some persons, as the effect varies in different individuals,—some skins, being more sensitive than others, blister the more readily. The reason why mustard is mixed with cold or tepid water for either medicinal or domestic purposes is well exemplified when the feet are placed in hot mustard-and-water.

The steam, as you know by the watering of the eyes, carries off some of the pungency of the mustard, and therefore when this pungency is required to pro-

duce counter irritation cold water is used, so that none of its efficacy may be lost.

Rigollot's mustard leaves are very useful, as they are always ready to hand ; but, personally, I give the preference to a home-made mustard plaister.

An Eau-de-Cologne poultice consists in an ordinary pocket handkerchief saturated with the scent, and applied to the skin with a layer of oil-silk over it. This is quite sufficient to produce redness on some skins, and therefore it is to many ladies much more agreeable than other poultices, as it is equally efficient in promoting slight counter irritation.

A hot boiled onion, for inflammation in the ear, makes an excellent poultice, as its pointed shape fits well into the ear, and retains heat for some considerable time. The onion is shred until it is of sufficient size to fit into the ear, and is kept in position by a thick pad of cotton wool, and a bandage placed around the head.

A piece of lint saturated in cold or warm water, and covered with oil-silk or gutta percha tissue is virtually a poultice, or, more correctly speaking, warm-water dressing. One fold of lint the size of the wound is sufficient. It should lie with the fluffy side away from the wound, and the oil-silk overlap the lint by about a quarter-of-an-inch all the way round. If the lint project to the smallest degree anywhere beyond the oil-silk, it will be quite sufficient to allow of the whole drying-up very speedily.

What a frequent mistake that is of putting the fluffy side of a piece of lint next the wound. It is done on account of its looking soft and more comfortable ; but the fluffiness sticks to the wound, is removed with difficulty, and in addition to some of it being left behind adhering to the wound, its removal drags upon the small granulations set up in the process of healing, irritating them, and causing them to bleed.

Cold-water dressing, or an evaporating lotion, is made by saturating a piece of lint or soft linen rag in

cold water, spirit-and-water, or Eau-de-Cologne-and-water, and as the fluid evaporates, coldness is produced. A fresh rag, saturated with the lotion, is substituted as soon as one becomes dry. Fanning the part, or the use of a spray diffuser, intensifies the coldness of this dressing.

Fomentations are, like poultices, employed when warmth and moisture are required. They are, however, lighter. Flannel is usually used for this purpose, on account of its retaining heat better than any other material.

The flannel is wrung out in boiling water or poppy fomentation, and applied to the part, and another flannel substituted as soon as the first begins to cool.

To wring out warm cloths it is impossible to use the hands if the heat is as great as it should be; for in the process of wringing the heat is lessened, and consequently if the temperature of the cloths is sufficiently low to be held in the hand, by the time they are put on the patient's body they are not then nearly warm enough.

Wringers are therefore employed. A wringer is made of coarse towelling or bedtick twelve inches in width, and thirty inches in length. A hem is made at either end, through which a stick twenty inches long is passed, so that when the flannel is placed in the wringer, the sticks, turned in opposite directions, fold the wringer around it, and empty it of all superfluous water.

Spongo-piline is an excellent thing by which to apply fomentations: composed of thick felt, and protected on one side by a layer of waterproof, it retains the heat, and absorbs sufficient moisture without ever being wet or sloppy.

Dry heat is sometimes more agreeable than moist warmth. Flannel bags filled with bran, salt, or hops, and heated by being placed in the oven between two plates, answer this purpose. The reason why the bags are placed between plates is to prevent the flannel of

which they are made becoming scorched by the excessive heat, so that when brought to the patient, some of the contents might get out, and be a cause of discomfort and annoyance.

Bags similarly filled with chamomile flowers are called stone fomentation, on account of their frequent use in this complaint. Concave tins or india-rubber bottles filled with hot water and protected by flannel coverings, is another method of applying warmth. Care must be taken that these hot-water receptacles are enclosed in flannel, as I have seen them applied to a patient who had some loss of sensation in the limbs, and a very severe burn result.

Blisters are remedies applied to the skin for the purpose of raising the upper surface of the skin or cuticle, drawing off some of the watery portion of the blood, and causing counter irritation.

They are especially useful in withdrawing inflammation from some important organ or situation, the loss of which, or the lessening in any way of its utility, would be a matter of great moment. For instance, inflammation of the eye is occasionally treated with blisters on the temple or behind the ear, inflammation of a joint by blistering in close proximity, and inflammation of the brain by blisters to the nape of the neck.

The old-fashioned plan of piercing the ears for weak eyes, which accounts for the earrings seen in so many labourers' ears, was practised as a counter irritant. The simple wearing of the earring has, of course, no effect as an irritant after all the inflammation consequent upon the ear-piercing has subsided, and therefore the practice has been discontinued.

Blisters are raised either by the application of blistering paper or by painting the skin with blistering fluid by means of a camel's-hair brush.

Mustard, ammonia, turpentine, croton oil, glacial acetic acid, and cantharides are some of the chief blistering agents, arranged in their order of strength, the first being the least powerful.

When blisters are to be kept open, the whole cuticle is cut off, and the raw surface dressed with blue or mercurial ointment.

But if allowed to heal, the blister is punctured by a needle at its most dependent part, and the fluid allowed to escape; care being taken that it does not go on the surrounding healthy skin. The reason of this is, that the fluid in the interior of the blister is so imbued with the blistering agent that if it runs over the healthy skin it frequently leaves a line of blister in its course.

A little cold cream or oxide of zinc ointment is subsequently applied as a dressing, and bandaged in position.

Ointments are applied to suppurating wounds, or used for rubbing into certain parts of the body to produce their specific effects.

The mercurial and iodine preparations are principally used for this latter purpose.

The ointment is either rubbed into the skin before a warm fire, or placed inside a flannel bandage round the waist or on the sole of the foot before putting on the stocking: it thus becomes absorbed during the course of the day.

Ointments should be spread evenly and smoothly on the non-fluffy side of a piece of lint, using a paper-knife for the purpose, and spreading the ointment in one direction—and that is, away from you.

As to the application of leeches. The scar of a leech-bite remains for life, and therefore care should be taken not to apply them to parts of the body where scars would be noticeable and unsightly. They form white triangular-shaped marks, corresponding to the teeth of the leech. The part where the leech is to be applied should be cleaned perfectly and dried thoroughly.

A leech-glass is a long narrow glass tube, open at both ends, but with one opening smaller than the other. Into this the animal is placed, and when there, *has no power of* turning round.

It is necessary, then, that you know which is the right end or head of the leech, as otherwise you might be surprised at its not taking when the tail is where the head should be.

The broad, thick, rounded end is the tail, and the long pointed one the head.

To encourage a leech to bite, or, as it is more frequently expressed, "to take," may be done by rubbing over the place a little milk or sugar-and-water. A better plan still is to place the leech in its natural element, viz., water, cover the glass with a piece of paper, and invert it over the desired spot; then withdraw the paper, and gradually absorb the water from the glass with a piece of sponge.

By this means the leech is brought gradually down to the skin, where you want it to take.

To remove a leech is seldom necessary, as when they have had enough they usually drop off; but in no case should they be dragged off, as the bite may then bleed profusely from the teeth being left in the wound. If sprinkled with a little salt they will immediately release their hold.

A leech that has been once used, is usually no good again, and therefore it is better thrown away at once.

The nurse should obtain instructions as to the amount of blood it is thought desirable to remove. Each leech is averaged to take one drachm and a half; and therefore, if it is thought necessary to augment the quantity of blood to be withdrawn, warm fomentations should be applied after the leeches have come away; and from one bite as much as half an ounce can then be obtained.

The bleeding from leech-bites is occasionally excessive. If pressure with the finger or a pledget of lint does not succeed in stopping the bleeding, the spot should be touched with perchloride of iron or stick of caustic.

Splints are for the support of diseased and injured parts of the body: they may be made of iron, wood, gutta percha, or leather.

Iron splints are made of different shapes, to meet special requirements, and to fit accurately and closely to the surface of the body.

Wooden splints do not adapt themselves to the inequalities of the limb, and therefore require more careful padding; whereas splints of guttapercha or leather can be made to fit very accurately.

The gutta percha, having been cut the required shape and size, is placed in warm water sufficiently long to make it pliable. It is then covered with muslin or lint, to prevent its scalding the patient, and bound on to the limb for some four or five hours; and as it cools it adapts itself to the irregularities of the part.

Leather can be used in the same manner, having first softened it in hot vinegar and water.

Any hard substance pressing unduly against the skin would not only be uncomfortable, but would in time produce a sore. Splints are therefore padded to prevent this.

In hospitals the splints which are padded by the nurses are beautifully done, and much time is bestowed upon them; but it is very questionable whether they are a bit more serviceable than those which are more quickly constructed.

Tow or cotton wool is first put on the splint, and then the whole is covered with linen or lint, either sewn carefully on or held in place by strips of plaister. The pad should be slightly broader and longer than the splint, so as to overlap its edge.

Splints should be re-padded and thoroughly cleaned whenever the limb is undone and re-dressed, especially when there is any discharging sore or suppurating wound.

All splints after use should be thoroughly washed, metal splints re-painted or japanned, and wooden splints scraped and scalded.

Bandages are employed to keep splints in position, dressings in contact with a wound, or to give support to a limb. The two in use are the handker-

chief or Esmarch's triangular bandage and the roller bandage.

Esmarch's handkerchief bandage is triangular in shape: the lower border measures 4ft., and the two side borders 2ft. 10ins. each. The different ways of applying this bandage were taught you in your first course of lectures on "First Aid to the Injured."

The roller bandage you have now to learn how to use, and this form of bandage can be far better and more efficaciously applied than the triangular one, which is hardly ever used in hospitals.

Bandaging can only be taught practically and brought to perfection by practice. I will not, therefore, take up your time now by any lengthy description, but reserve a special chapter for instruction in this most useful accomplishment.

When it is thought desirable that a limb should remain permanently bandaged for some time, the bandage is saturated with starch, gum, or plaster of Paris.

Starch is mixed with warm water until it is of a thick consistence. The limb, having been first enveloped in cotton wool or bandaged with a flannel roller, is again bandaged with a dry calico bandage, on which the starch is well painted or rubbed in with the hand as the bandage is being applied.

A gum and chalk bandage is put on in exactly the same manner, only instead of starch, a mixture of equal parts of gum and chalk, to which boiling water has been added, is used. This sets sooner than the simple starch bandage.

When applying a plaster of Paris bandage, the limb is first protected, as before, with cotton wool or a flannel roller. The reason for adopting this precaution is to prevent a wet bandage shrinking when dry, and the bandaging becoming too tight. To tell if a bandage is applied too tightly, the nail of the finger or toe may be pressed upon; and if the blood disappears and reappears when pressure is removed, it shows that there is no undue constriction.

Muslin bandages, rolled up, with finely-powdered plaster of Paris rubbed into the meshes, are placed in water for a short time, and then bandaged upon the limb. More plaster of Paris, made into the consistence of cream, by the addition of cold water, is smeared over the bandage as it is being applied. The setting of the plaster is delayed by the addition of a small quantity of size, and hastened by the addition of salt. The day after the application, the surface of the plaster should be painted over with white of egg or gum-water, to prevent its chipping.

The casing of these immovable bandages can be made almost splint-like by strengthening their sides by the insertion of strips of cardboard as the bandage is being put on. They may then, if required, be cut up lengthwise, the limb examined, and the casing again applied and kept in position by a few turns of an ordinary bandage, and used exactly in the same way as a splint.

I have now to say a few words to you on personal and family hygiene, for "the greatest wealth is health."

Firstly, as regards late dinners. Well, they are the fashion, and there is no getting over that; but they are not injurious if they *are* late dinners, and do not degenerate into suppers.

Suppers are undoubtedly a mistake. "After supper walk a mile," is an every-day saying, but in my opinion five miles would not be any too many.

Different articles of food are more digestible than others; therefore, for the last meal in the day, eat only those things that are most easy of digestion; as sleep should not be attempted until digestion has been thoroughly accomplished.

Two hours and a half should elapse between the last meal and before going to sleep for the night. The face and hands should invariably be washed before going to bed. This is especially necessary after having been in rooms overcrowded, heated to excess, and with dust flying about in all directions. Some of this

dust settles upon the skin, and should be removed before going to bed, instead of its being allowed to block up the pores of the skin during the night, and prevent free perspiration. By so doing, persons would find, on rising the following morning, that they are far more refreshed and far better able to stand the fatigue of the next day.

What a different sensation one experiences the following morning, after having been present at some large assembly, if the rooms have been well ventilated, to what one feels when no attention has been paid to such details. Therefore, carry hygiene in your minds when entertaining your friends.

What refers to the washing of the body refers equally to the washing of the teeth and mouth. How few people trouble themselves to clean their teeth before going to bed, and yet clean them most religiously every morning. The teeth, used during the day for the mastication of different varieties of food, must necessarily be unclean. Yet, instead of cleaning this off at once, these impurities are allowed to remain throughout the night in contact with the white enamel of the teeth —staining, eroding, and eventually producing decay. If the practice of cleaning the teeth before going to bed was as habitual as the going to bed itself, decayed teeth would be less frequently met with, and better digestions would be the consequence.

To ensure the proper ventilation of the sleeping-room, see that the register of the chimney is open; but to have the bedroom window open at night-time all the year round, in our uncertain climate is, in my opinion, far too risky.

Feather beds should never be allowed in any house. They are not healthy, and are, besides, not nearly so resting as a hair or spring mattress.

The warmth of a feather bed—its chief desideratum —can always be obtained by an increase of clothing or the use of an eider-down quilt.

The wearing apparel worn during the day should not

be folded up, as some tidy people would suggest, nor thrown in a heap, as some untidy persons do; but hung up on pegs, so as to allow of their being thoroughly ventilated.

No two people should ever sleep in one bed. This is more especially the case with children sleeping with grown-up people; as an adult abstracts warmth from the child, who, during the period of growth, requires all the heat it generates. Not only that, but, locked in the unconsciousness of sleep, the one breathes again the breath of the other; and which, being impure air, is injurious if breathed over again.

Our servants we more often compel to sleep two in a bed; and here we are greatly to blame, if we expect to have early-rising, willing, and healthy domestics. No two people like the same amount of clothing on them; and should one have a disturbed and restless night, the fellow-servant is compelled to suffer the same also, to their detriment and your disadvantage.

Open the window of your bedroom before leaving it in the morning, and shut the door, thereby ventilating the room without driving the foul air into the body of the house.

The bed should be thoroughly stripped every morning, the bedclothes exposed to the action of the air for at least an hour, and the mattress turned before the bed is re-made.

A cold bath on rising in the morning may suit some persons—but not all. A cold bath may be continued all the year round; because, by a cold bath I mean water that is cold enough to produce a shock to the system, and not that at the temperature at which it comes away from the cold-water cistern. In cold weather the water should have the extreme cold taken off by the addition of a certain amount of warm water, and yet left sufficiently cold to produce a reaction on stepping out of it. The body is best washed all over every morning, but it is absolutely necessary that this *is done at least* once a week.

What is called an air-bath is very beneficial, and which consists in simply exposing the whole of the body to the action of the air. Probably a good deal of the benefit derived from taking any bath is attributable to this exposure of the whole surface of the skin to the action of the air.

Every week see that chloride of lime or some other disinfectant is thrown down all sinks and closets.

See that the bowels are opened always once daily. Persons suffering from disease of these parts should choose the evening time, just before going to bed, for this purpose, as the horizontal posture subsequently assumed relieves the suffering necessarily entailed.

Out-door exercise should be taken daily. Walking is better than driving, and riding is better than either. Children should not fail to go out, weather permitting, every day; and infants also, if properly protected from catching cold. When children do go out, remember that they go out for exercise, and not to go to sleep. That is one of the great objections I have to perambulators. When children were carried in the nurse's arms they were moved about, and consequently sleep could not be taken so readily as now, when reclining and motionless; and the fresh air cannot fail to make them sleepy. If you do have a perambulator, have one where the child faces the nurse, so that she can readily see the child, should anything ail it; as more often than not you see a nurse pushing along a perambulator, her thoughts far away, or else holding delightful converse with someone walking beside her.

Children who go to bed early, which they always do in every well-regulated house, wake correspondingly early, and towards the middle of the day, after coming in from their walk, should be made to lie down, even if they do not go to sleep, as young growing children require plenty of rest.

Girls are more subject to outgrow their strength than boys, and therefore it is amongst them we find the greater tendency to malformation. Their amusements

also are, in the majority of cases, far too sedentary, and not like a boy's, active and vigorous. Girls should wear gymnastic clothes, so that they can use their limbs freely and easily, and do exactly what boys can.

Children should never be allowed to assume faulty positions, such as standing on one leg, the side of the foot, or resting and lolling about. In some girls' schools they adopt the very excellent plan of making those girls who are at all inclined to outgrow their strength lie on the hearth-rug for a couple of hours in the day, and learn their lessons in this position. Should there be any tendency to irregularity of the spine, playing the piano or sitting on a stool with the back unsupported is most injurious.

As to clothes, and the folly of tight-lacing, it is hardly necessary for me to speak, as a healthy body is now more appreciated than a distorted one. It is not right that all your organs should be in your chest; if so, they would have been put there.

As the result of too-tight lacing, we see the congested face, from the impediment which it naturally causes to circulation. Digestion is interfered with, as frequently the liver is grooved with deep ridges, from the ribs being unduly pressed into it. Any excessive construction about the waist must push some of the viscera upwards, and some downwards. Consequently rupture, displacements of the womb, and other complaints are produced by pushing the intestines and other organs downwards upon the weak points at the lower part of the abdomen. Tight belts for boys, for this same reason, are not advisable. The habit of tight lacing, on the part of ladies, and of wearing belts instead of braces on the part of men, also materially interferes with the power of breathing. The spirometer showed, in one case, that a lady who could only expire 100 cubic inches of air with her stays on instantly expired 142 inches when they were taken off.

"The dress of young girls," says the *Lancet*, "is more *outrageous* to the principles of health, and more in

need of the strictures of a vigorous criticism than is the costume of the fully developed female. The principle of clothing the body is to cover it so as to maintain it in all parts at an equable temperature. How is this principle observed in a child of five or six years old? The arms are commonly bare from the shoulders, and the child shows upon those limbs the effects of external cold, and the lower limbs are covered by the shortest and scantiest of skirts." The dress should be suitably long, and be made so as to be suspended from the shoulders, and not from the waist. The petticoat also should be attached to an under-bodice, which, like the dress, should receive its attachment from the shoulders. Socks should be entirely discarded, as affording but a partial covering to the limbs. The neck should never be left wholly uncovered. The ornamentation of the dress should be as scanty as possible, and should aim at making the least possible addition to the weight of the attire.

Linen should never be worn next the skin, especially in a climate like ours, subject to abrupt changes of temperature. Perspiration is not absorbed in it as in flannel, and therefore it strikes cold and damp to the surface of the body when cooling begins to take place.

Delicate persons should always wear flannel next the skin, especially those at all subject to rheumatism; also in the clothing of young girls some woollen fabric should be worn, to clothe the entire body as evenly as possible.

For this purpose no better garment can be adopted than the so-called "Combination." Dr. Gustav Jaeger's Sanitary Woollen Clothing is admirably adapted for the under-clothing to be worn next the skin.

For protection against cold, leather and india-rubber are best of all, wool next, and cotton and linen take the lowest place.

For protection against extreme of heat, the texture of clothes is practically immaterial, colour being of the greatest importance. In hot countries white clothing

is the best, next light grey or dust colour, like the Indian "Khakee."

Lace-boots are the best form of foot covering,—better than shoes, which leave the ankle unsupported and exposed to wet and damp, and better than button or elastic-side boots, neither of which give that support to the ankle that is desirable. Boots with square toes are preferable to narrow-pointed ones, which, by contracting the foot, produce bunions and other distortions.

Between deformity and distortion I draw this distinction: the one is a congenital malformation, the other is an acquired deformity.

All boots should have a heel to them, without there is flatfootedness or other deformity—and then there should be none at all. By a heel, I do not mean one exceptionally high, and out of all character, as we do occasionally see them placed under the centre of the instep with the object of making the foot look small. This is only eccentricity of fashion.

One word now as to gartering, about which so much has been said.

Varicose veins in the legs are as much a disease of the venous system as aneurism is of the arterial system. Therefore, although gartering may accelerate the complaint in a person already predisposed to it, the act of gartering itself has little or nothing to do with the origin of varicose veins. I made inquiry some short time back of some of the officers commanding Highland regiments, and found that not any of the men suffer from varicose veins, all of whom garter below the knee. If gartering is adopted at all, it is much less likely to be injurious if done above than below the knee, for the reason that the hamstring muscles prevent any undue constriction of the popliteal vessels. When there is a tendency to varicosity, then suspenders, which take their support from the waist should be worn.

The management of a patient recovering from some

illness and passing into a state of convalescence requires great care: in some cases, to prevent a relapse, in others to husband the strength, and guard against catching cold and over-exertion. It also requires, on the part of the nurse, great patience, for as patients get stronger, they become more irritable and impatient, and it is well said that when this takes place, after some long illness, it is a sure sign of "getting better."

Lady Barker, in her admirable little book on the bedroom and boudoir, says, when a sick person begins to take pleasure in colour, it is a sure sign of convalescence, and she advises a nurse to gratify this by the dressing of dolls, or the making of pincushions, thus affording a capital excuse for a heap of bright-coloured silks, or fragments of ribbon to be left lying about. It was for this reason that I suggested a nurse should wear a knot of some bright-coloured ribbon at the throat.

Bed-rests and bed-tables for toys, and for holding books, flowers, &c., are very useful when the patient is sufficiently convalescent to derive enjoyment out of these things. The tables, mounted on legs, take off all weight from the patient, and when anything is wanted, such as the pocket-handkerchief for instance, it can be easily found, and not as is otherwise the case, lost amongst the folds of the bedclothes.

An improvement in the appetite is one of the earliest signs of a return to convalescence, and as the appetite is good, nourishment should be both abundant and nutritious.

A warm bath, after the eruptive fevers, greatly aids in the separation of the desquamating skin, and until the complete separation has taken place, the patient is not fit to mix with other members of the family.

The first getting-up of an invalid is always an important step in the right direction. To sit up and be dressed is a tiring operation, and therefore at first it should be only for a short time, and the duration

gradually increased. By degrees slight exercise may be taken about the room, then as soon as the invalid is sufficiently well to take outdoor exercise, let it be of the mildest description, such as driving or riding in a bath-chair.

Then, as the strength improves, outdoor walking exercise should be taken, always stopping short of fatigue. If half-an-hour's exercise even is found too tiring, then the time must be curtailed.

Finally, change of air should be taken as soon as possible, either into the country or to some seaside place.

This brings my course of lectures to a termination. Some things I have told you were, perhaps, already known to you; but if there is any one thing I have been able to teach you, or that may have led you to think for yourselves, my time has not been thrown away. Sickness, in some shape or form, you will undoubtedly meet with, and I hope you will now be in a better condition to undertake or supervise the nursing yourselves, and conduct the same on a systematic and definite plan.

CHAPTER VI.

BANDAGING.

The Roller Bandage.

The roller bandage may be made of different materials—linen, calico, muslin, gauze, or flannel.

Linen is the best material to bandage with; it lies more evenly, is whiter in colour, and makes the bandaging look neater.

Calico is practically as good, and cheaper.

Muslin is chiefly used in applying a permanent bandage, such as plaster of Paris, as the plaster can be well rubbed into the meshes of the material.

Gauze is largely used nowadays in the form of carbolized gauze for the dressing of wounds antiseptically.

Flannel is always employed for bandaging the trunk, because it is warmer and more comfortable; and flannel should always be worn next the skin. This bandage is applied for fractures of the ribs, as secondary complications are usually not then so serious; this injury being frequently complicated by injury to the pleural membrane.

The roller bandage is used of different widths, corresponding to the diameter of the part to be bandaged. The greater the circumference, the greater the width.

The usual measurements are—

For the fingers, ¾in. wide;
For the arm and head, 2½ins. wide;
For the leg and breast, 3ins. wide;
and
For the chest, 6ins. wide.

The roller bandage may be applied in the form of a simple spiral or as a reversed spiral.

The latter is the more frequent mode of application.

A simple spiral, of which that for fractures of the ribs is the best example, consists in the bandage being simply wound around the part. If there is any muscular development, as in the arms and legs, this form of bandage does not lie evenly. The lower margin of the bandage stands out like the laths of a Venetian blind, and consequently, to prevent this the reversed spiral is adopted.

The reversed spiral is done by turning the bandage upon itself from above downwards, on the outer or fleshy side of the limb. This turn is made whilst the bandage is held loosely, and is tightened up afterwards. Each angle formed by the turns should be exactly in a line one above the other; and each turn of the bandage round the limb must leave the same width of bandage uncovered as the turn preceding it, so that when the limb is completely covered, the whole looks symmetrical.

The following are the broad rules applicable to any form of application of the roller bandage :—

(1). Hold the roller bandage in the reverse hand to the side of the patient you are bandaging. You must therefore learn to be equally skilful in using both hands.

(2). Place the beginning of the bandage on the inner side of the limb, and bandage from the inside to the outside.

(3). When bandaging a joint, the bandage is applied in the form of a figure of 8. The loops of the figure of 8 go above and below the joint, whilst the cross part of the figure lies over the joint itself.

(4). Let the turns of the bandage be of equal depth.

(5). Avoid wrinkles and do not bandage too tightly. Let the bandage be applied so as to ensure even support and pressure up the whole length of the limb.

Good bandaging can only be obtained by practice.

There is a proper way of taking a bandage off, as well as of putting one on.

To do so, gather it up loosely as it is being taken

off, and let each turn of the bandage, as it is unwound, go round that portion that is already removed; not swinging the bandage round and round the limb, by violent gyrations of the arm, as I have occasionally seen done.

There are different varieties of the roller bandage, besides the ordinary one. They are the four-tailed, the many-tailed, and the T or perineal bandage.

FIG. 1.

The four-tailed bandage is used chiefly for fractures of the lower jaw (Fig. 1), but it may also be used for keeping dressings upon the head.

It consists of a piece of bandage, about a yard and a half long, split up at either end to within a few inches of the centre.

The central portion has a small hole cut in it, to receive the point of the chin. Two of the tails, the lower ones on either side, are tied on the top of the head; and the other two, after crossing at the back of the neck, are tied on the forehead. The four ends are sometimes subsequently tied together.

The many-tailed bandage is made by stitching some eight or ten strips of bandage on either side of a central band of linen; each strip overlapping the next by two-thirds of its width, is sewn on the central band in a slanting direction.

The bandage is applied to the back of the limb; and, commencing from below, first one tail from one side, and then another from the opposite side, is folded around the limb, crossing one another in front; and so on until the whole is put on.

This form of bandage is very useful when it is desirable to disturb parts as little as possible; and to

keep up a certain amount of pressure, and apply cold-water dressing to some ulcerated part.

The T bandage is used for retaining poultices, &c., to parts about the perinæum.

The cross part of the T goes round the waist, whilst the tail goes between the legs, and fastens in front to the part which has encircled the body.

The capelline bandage is used for keeping dressings or on an ice-bag upon the vault of the head. It is the most difficult of all modes of applying the roller bandage, and when completed does not fulfil any requirements but what can be obtained by the easier method of putting on the triangular bandage.

It is applied by what is called a double-headed roller. A bandage two yards long is rolled up from both ends, so as to meet in the centre.

The operator, standing in front of his patient, places the centre of the bandage on the forehead, and passes the rollers horizontally round the head, the one to the right and the other to the left, as far as the centre of the occiput at the back of the head. The bandage is there crossed by changing the rollers into opposite hands; that roller which passed to the left of the patient is brought across the median line of the head, whilst the other is brought round to the left side of the head. One roller is kept passing backwards and forwards across the skull, first to one side and then to the other of the median line, whilst the other passes horizontally (Fig. 2) round and round, keeping the first in position. All the folds, from the forehead to the occiput, will then be on one side of the median line, whilst those in the contrary direction will be on the other.

The roller going horizontally round the head should have a sharp turn given to it where the other roller crosses it, as otherwise, when the bandage is completed, straight pieces of the horizontal folds will spoil the symmetry just at the central points where the vertical folds converge.

In beginning this bandage it is necessary to keep

well down on the forehead in front, and well below the occiput behind, or the cap will be liable to slip

FIG. 2.

FIG. 3.

off. The ears are not to be included in the horizontal portion of the bandage.

This capelline bandage, when completed, should resemble a melon or the mould of a cabinet pudding. (Fig. 3.)

The bandage for fracture of the clavicle shews better than any other the figure of 8 form of bandage. A thick pad is put in the armpit of the affected side, so

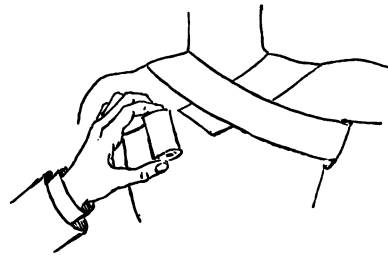

FIG. 4.

that the point of the shoulder is kept well out. This pad should be somewhat wedge-shaped, the thick end being placed upwards: a soft cap or a towel answers the purpose sufficiently well. The commencement of the roller is placed in the centre of the back, and then

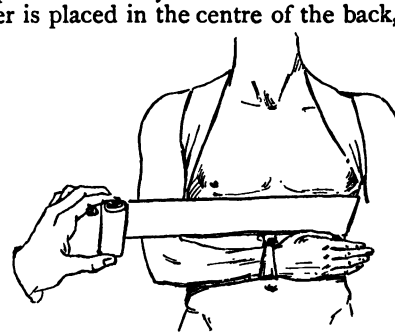

FIG. 5.

brought over the affected shoulder and under the armpit to keep the pad in position. It then passes over the shoulder and under the armpit of the opposite side; and, meeting the commencement of the *roller, com*pletes the figure of 8 (Fig. 4). Some four

or five figures of 8 are made around the shoulders, with the object of drawing them well back. The roller is then brought from the back round the trunk on the uninjured side, and, having made a slip-knot to take the wrist on the injured side, it continues going round and round the body so as to restrain all movement of the semi-flexed arm on that side (Fig. 5).

This figure of 8 bandage applied to stooping or round-shouldered children is very useful, and quite as efficient as what are called American braces.

The shoulder bandage is applied for keeping dressings upon the part, as in disease of the shoulder joint.

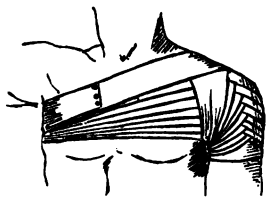

FIG. 6.

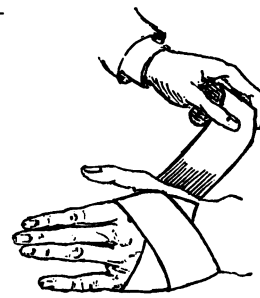

FIG. 7.

The roller is first carried straight round the upper arm; then, after some two or three reversed spiral turns, it is carried over the shoulder and across the back to the armpit of the opposite side, and so across the chest to the top of the injured shoulder again, and under the armpit to the front in a figure of 8 form. The cross portion of the figures of 8 must be in a line with the reverses of the spiral turns, so that it is impossible to tell where the one commenced or the other left off (Fig. 6). Pads of cotton wool should be placed in both armpits, to prevent the bandage cutting the skin.

To bandage the hand and arm. The end of the bandage is first placed on the inner side of the wrist, and the figure of 8 turn is made around the palm and wrist (Fig. 7). This is quite sufficient to hold the bandage tightly in position, and a circular turn just

above the wrist is not needed. After the figure of 8 one turn of the roller is taken straight round the palm below the thumb. Then one or two more figures of 8 are made round the wrist-joint before passing one straight turn above the wrist, and proceeding upwards by reversed spiral turns. (Fig. 8).

When the elbow is reached, it may be covered in by figures of 8, as, in fact, all joints are covered in, but it is more usually left out.

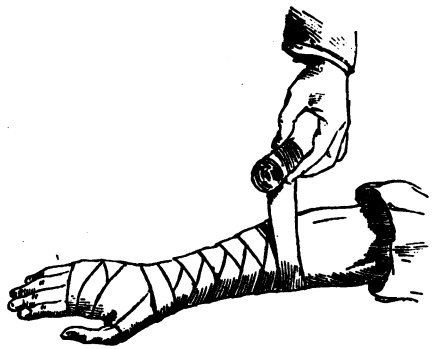

FIG. 8.

When the elbow is reached the arm is placed in the semi-flexed position, which will be the most comfortable to the patient, as he will most probably carry his arm in a sling. On no account should the arm be bandaged in an extended position, and subsequently flexed. The elbow flexed measures in circumference more than when extended; consequently, if bandaged in the latter position, your bandaging is much too tight when the arm is subsequently flexed. I have seen great sores occur on the inner side of the elbow-joint through this carelessness. The arm, as well as every other joint, should only be bandaged in an extended position in cases of burns in the neighbourhood of joints, for fear of bridles of skin, or scars *forming*, which would hereafter limit movement.

To bandage the fingers. The roller commences on the inner side of the wrist, with a turn once round. It is then carried from the inner side to the tip of the thumb. One turn is carried straight round, and then reversed spirals are done upwards to the root, when another straight turn is made before the bandage is carried across the back of the hand to the inner side of the wrist-joint. Having surrounded the wrist, it comes from the inner side again to the extremity of the first finger, and so on to the second and third, until all the fingers are covered, and the back of the hand also. (Fig. 9). The rounded extremities of the fingers need not be covered, and the reversed spiral on the fingers looks much neater than the simple spiral, which is very liable to slip off.

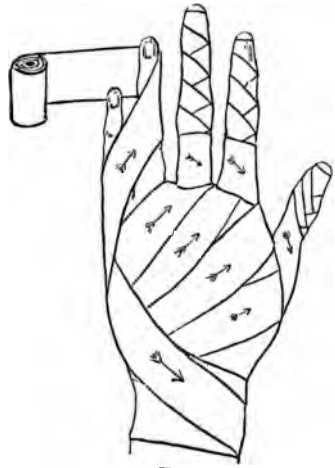

FIG. 9.

For bandaging the ribs when fractured, a flannel roller, eight yards long is used. One end is first slit in half to about a yard in length, and thrown across the shoulders like braces. The left hand is placed flat upon the back, whilst a half-turn is made of the bandage with the other hand. (Fig. 10).

The roller is then carried under the right armpit and round the body, and slipping it into the fold made at the back by the left hand, is drawn tight and returned back again round the left side of the body. This is the best example of the simple spiral, as the roller is afterwards wound round and round the body without any reversing. The bands hanging down in

front, which have been crossed by the circular turns are brought upwards and tucked into the upper margin of the bandage, to prevent it slipping down. (Fig. 11.)

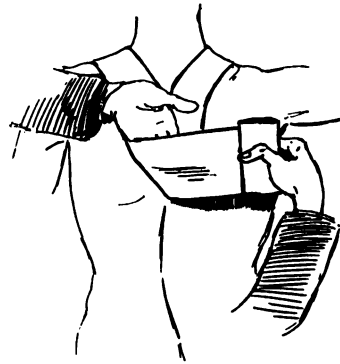

FIG. 10.

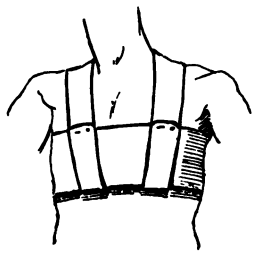

FIG. 11.

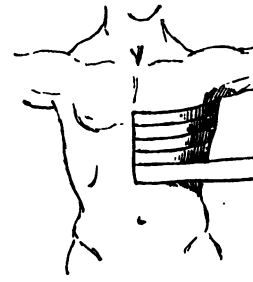

FIG. 12.

The end of these braces may be sewn or fastened with safety-pins to keep them in position. I usually find that pupils put this bandage on too low down, in fact, as a species of cholera belt. Remember that the ribs are situated at the upper part of the trunk, and do not extend below the diaphragm.

Another excellent plan for giving support to fractured *ribs is* by means of strapping. Bands of diachylon

plaister, two inches in width, are carried from the centre of the spine behind to the middle of the sternum in front (Fig. 12), over the injured side. Each band of strapping overlaps the other by half its width, and thus a species of cuirass is formed.

By this means support is afforded to the injured ribs without the movements of the opposite side of the chest being in any way interfered with in their respiratory action. It also keeps the parts more at rest, and tends to a speedier recovery.

The single-breast bandage. The roller is carried first round the waist below the breast. When the bandage is fixed, the roller is carried over the lower

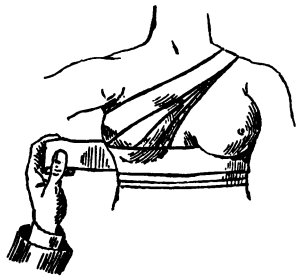

FIG. 13.

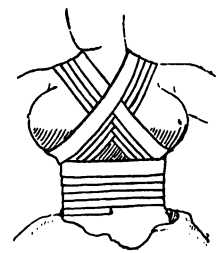

FIG. 14.

part of the affected organ, and over the opposite shoulder; then around the waist, and again the next time higher and higher over the breast and opposite shoulder, until the whole organ is covered in. (Fig. 13).

The double-breast bandage is commenced in the same manner as the preceding one. The roller is then carried from the waist across the back, over one shoulder, and under the lower part of the opposite breast, then around the waist, and up under the lower part of the other breast, across the chest to the opposite shoulder. This is done first on one side and then on the other, so that from below upwards the breasts are supported. (Fig. 14).

Both this, and the preceding mode of application are

used principally to give support to the breast or breasts, as the case may be. When this is the case, the bandaging is commenced low down, and each turn brought higher and higher; but when used for the application of dressings after the removal of the breast, the bandaging is commenced high up, and brought gradually lower and lower.

A spica bandage is probably the most useful of all modes of application. To keep up pressure upon pads in cases of rupture, or to retain poultices upon inflamed glands, or in disease of the hip-joint, it is often called into requisition.

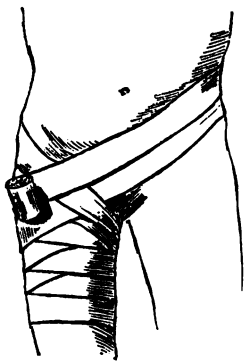

FIG. 15.

A single spiral turn is first carried from within outwards around the thigh, then two or three reversed spiral turns, and finally several figure of 8 turns around the lower part of the back, across the abdomen, to the outer side of the thigh. (Fig. 15).

The crossings of the figure of 8 must be in a line with the reverses of the spiral first put on, so that it is impossible to distinguish between the two.

To bandage the knee, one turn of the roller is carried straight round below the knee-joint, then two or three reversed spiral turns are given, before the series of figures of 8 are commenced., and which completely cover in the joint. The loops go above and below the knee, and the crossing is in front, and on the top of the joint (Fig 16). Here also the crossings of the figures of 8 must be in a line with the angles formed by the reversing, so that it is impossible to tell where the one commemced and the other terminated.

The leg and foot is commenced in exactly a similar manner to the hand and arm. The end of the bandage is placed on the inner side of the ankle-joint (Fig, 17),

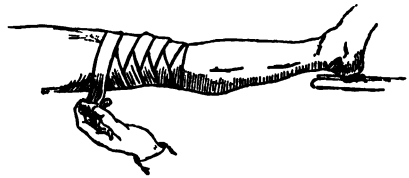

FIG. 16.

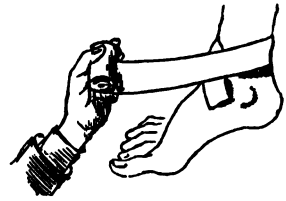

FIG. 17.

FIG. 18.

and carrying it across the instep and under the sole, it is brought up on the inner side of the foot across the instep again to the outer side of the ankle, thus complet-

ing the figure of 8 around the joint. No straight turn should be first of all carried round above the ankle.

After the first figure of 8, one straight turn is made around the foot at the root of the toes, then two or three more figures of 8 may be made before the one straight turn is placed around and above the ankle. A series of reversed spiral turns up the leg complete the bandage. (Fig. 18).

CHAPTER VII.

SPECIMEN QUESTIONS.

Lecture I.

1.—You are requested to nurse a sick patient: (assuming the choice is available), mention the points which would guide you in the selection of a room.

i. As regards aspect and situation.

ii. As regards capability of ventilation;

stating your reasons in each case.

2.—What aspect would you choose for the bedroom of a patient suffering from bronchitis, brain disease, and chronic phthisis, and why?

3.—Describe the preparation of the room, noticing particularly the preliminary cleansing (if time were available), the temperature to be observed, and the articles you would especially reject in a case of infectious fever.

4.—How would you clean the floor of a room in which is a patient with acute bronchitis?

5.—Describe position in relation to walls, doors, and windows, which you would choose for the bed of a patient in an ordinary sleeping-room.

6.—Describe the bed you would select (if possible).

i. As regards the mattress;

ii. Size of the bedstead;

iii. Its position in the room;

stating your reasons in each case.

7.—State what preparations you would make in the

bed and bedding for a case of fractured thigh. State your reasons for every detail.

8.—Describe a fracture-bed and the necessary nursing preparations to be made for such an injury.

9.—What precautions would you adopt for warming and ventilating a sick-room in which is a case of incised wound of the throat opening into the air passage?

10.—Define ventilation; giving the composition of ordinary air and the changes produced in it by expiration.

Lecture II.

1.—Define infectious and non-infectious diseases, giving examples of each. Is there any difference between infection and contagion, and if so, what is it?

2.—What is meant by the term "infection"? Give illustrations of infectious cases, and state for what periods it is necessary to isolate a case of scarlet fever, measles, and whooping cough respectively.

3.—What excreta are more especially infectious in measles, scarlet fever, and typhoid, respectively?

4.—What do you understand by "quarantine" of a patient?

5.—Give the history of a fever case.

6.—What are the stages of an ordinary fever—say one of scarlatina?

7.—What do you understand by the terms disinfectant, antiseptic, and deodorant?

8.—Describe the mode of disinfecting a room occupied by a scarlet fever patient.

i. Whilst the room is occupied by the patient.
ii. Of the patient's body during convalescence.
iii. Of the room after the patient has left.

9.—How would you disinfect an unoccupied room.

10.—Enumerate the disinfectants in common use, stating which you prefer for the sick-room itself, for *utensils*, and for body linen, respectively.

LECTURE III.

1.—What rules would you give as to the admission of visitors to a sick patient?

2.—During a case of prolonged sickness, what precautions should a nurse take to preserve her own health?

3.—How would you wash a patient, so as to disturb him as little as possible?

4.—Describe how you would make up the bed for a patient who would be unable to be moved for some time.

5.—How would you make up the bed for a patient suddenly seized with apoplexy.

6.—How do you change the upper sheet of a bed so as to avoid chilling your patient; and how the lower sheet?

7.—How would you lift a patient from the operating-table to the bed, supposing three or four people were available?

8.—Write a diet table for a young child aged about eight, convalescent from measles.

9.—Supposing a medicine was ordered to be taken twice or three times a day, at what hours would you give it?

10.—Give the meaning of the following abreviations as applied to medicines :—o.n., h.s., p.r.n., s.o.s., stat.

LECTURE IV.

1.—What is a rigor? Mention the treatment to be adopted by the nurse in the event of such an occurrence.

2.—Describe the varieties of pain associated with certain complaints.

3.—Mention how the posture of a patient might assist you to a diagnosis of his complaint.

4.—How would you treat persistent vomiting after chloroform?

5.—Expectoration: describe the different varieties of sputa coughed up, and what diseases they especially point to.

6.—Describe a clinical thermometer. Explain its use, and how it is to be applied.

7.—What is the normal temperature of the human body? In what class of cases is it elevated? At what degree do you consider it serious, and at what degree do you consider it dangerous?

8.—What is the normal temperature of the human body in the morning and in the evening? state what you would expect it to be in a shivering fit and in a case of fever.

9.—Baths. What are the effects on the human body of the cold and hot baths? What are the usual temperatures—

i. Of the tepid; ii. Warm;
iii. Hot; and iv. Very hot bath?

10.—What do you understand by "packing," and how is it done?

11.—Bedsores. How are they usually caused? How recognized? How best prevented and treated?

12.—Describe delirium. What different varieties are there, and how would you act in such cases?

13. -What preparations would you make supposing some surgical operation was going to be performed?

Lecture V.

1.—What is a poultice? What is it generally made of, and how applied?

2.—How do you make a linseed poultice, how often *do you* change it, and why, and for what uses do you *apply it?*

3.—How do you make a mustard plaister, and how long would you consider it necessary to keep it on?

4.—What do you understand by warm-water dressing and cold-water dressing?

5.—Fomentations, how used, and of what composed?

6.—How do you make a turpentine fomentation?

7.—Of what use are blisters? And give a list of blistering agents.

8.—How do you apply a blister, how dress it, when you wish it to heal, and how when you wish to keep it open?

9.—Of what use are ointments? Give examples applicable to these uses.

10.—Leeches. Give an account of the various details to be observed in the application; from the first application to the removal and the subsequent treatment of the leech-bite.

11.—What do you mean by a simple spiral and a reversed spiral bandage; and to what parts of the body are they respectively applicable?

12.—What suggestions would you give as to the management of convalescents?

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